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Number 1

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WAR DEPARTMENT
OFFICE OF THE CHIEF OF STAFF
WASHINGTON, D. C.

December 23, 1926.

Major General Andrew Hero, Jr.,

Chief of Coast Artillery.

My dear General Hero:

To each and every one of your command I extend cordial Christmas Greetings and my heartfelt wishes for a happy and successful New Year. I am proud of the high sense of duty, the unquestioned loyalty and cooperation and the spirit of comradeship that prevail throughout our military service.

Sincerely yours

Shummeall
Major General,
Chief of Staff.

THE COAST ARTILLERY JOURNAL

Volume 66

JANUARY, 1927

Number 1

Annual Report of the Chief of Coast Artillery

Extracts

I submit the following report for the fiscal year ending June 30, 1926.

1. RETIREMENT OF GENERAL COE.

Major General Frank W. Coe retired from active service, at his own request, March 19, 1926. He had served as Chief of Coast Artillery for seven years and nine months, this period covering the most active portion of our participation in the World War, the demobilization and reorganization of the Army following the war, and the various adjustments incident to that reorganization. During his incumbency the activities of the Coast Artillery Corps were extended from harbor defense only to include railway, antiaircraft and trench artillery, tractor-drawn artillery in coast defense, and sound ranging.

I assumed charge of the Coast Artillery Corps January 15, 1926, pursuant to Par. 9, S. O. 12, War Department, c. s., and became Chief of Coast Artillery March 20, 1926. It will be my endeavor to maintain the same high morale throughout the Corps as did my predecessor and to continue the broad spirit of cooperation with other branches of the Army that was so marked a feature of his administration.

2. The missions of the Coast Artillery Corps have undergone no change during the past year.

3. PERSONNEL.

a. In the annual report of the Chief of Coast Artillery for 1924, there was given an exhaustive analysis of the strength required for the Coast Artillery to enable it to fulfill its mission under existing mobilization plans. This analysis indicated a shortage of 19,557 enlisted men and 677 officers. No material progress has since been made toward meeting this requirement.

* * * *

c. Distribution of officers May 31, 1926.

(Date selected as giving normal distribution)

	Maj. Gen.	Col.	Lt. Col.	Maj.	Capt.	1st Lt.	2nd Lt.	Total Actual	Author- ized
With Troops in U. S.								(295)	(289)
Hr. Def.		6	9	16	71	58	38	198	189
AA Arty.		1	1	4	16	15	18	55	53
Hq. 30th C. A. Brig.		1		1	1			3	3
Ry. Arty.		1		2	6	6	6	21	24
Trac.-Dr. Arty.			1	1	5	3	6	16	17
Sd. Ranging					1		1	2	3
With Troops on F. S.								(277)	(280)
Panama		3	2	8	18	16	19	66	70
Hawaii		4	3	14	26	29	31	107	107
Manila		3	2	13	28	23	35	104	103
C. A. Dist. Staffs		5		2	1			8	10
Torpedo D. & C. A. Bd.		1		4			1	6	7
O. C. C. A.	1	2	2	5	1			11	10
Spec. Serv. Sch.			1	39	34	26	10	110	110
Detached Duty								(297)	(308)
General Staff		6	9	12				27	28
Gen. Serv. Schools		2	2	46	2			52	50
R. O. T. C.		4	1	14	22	9	0	50	48
N. G.		3	2	11	15	4	0	35	36
Org. Res.		13	14	19	8	5	0	59	52
U. S. M. A.				6	3	11	1	21	2
Misc. Details		3	5	13	15	13	4	53	92
TOTAL	1	58	54	230	273	218	170	1004	1014

d. Distribution of enlisted men.

Authorized Strengths,	In U. S.	Panama	Hawaii	Philippines	Total
1. Table 12020—Appr. 8/4/24 (a)	6020	1800	3000	1200 (c)	12020
2. G. O. 7 and Cir. 24, W. D. 1926 (b) Based on straight percentage reduction.	(d)	1800	3000	1200 (c)	11408
3. Former adjusted strength based on needs. Let. AG 341.1 (9-6-24) Enl. (b)	5654	1800	3000	1200 (c)	11654
4. Increase in Panama Garrison (G. O. 11 and Cir. 35, W. D. 1926)		453			453
5. Total authorized strength prior to June 22, 1926 (b)	5654	2253	3000	1200 (c)	12107
6. Present adjusted strength (b) Letter AG 341.1 (6-22-26) Enl. (Based on G. O. 7)	5411	2253	3000	1200 (c)	11864
7. Actual strength May 31, 1926	5613	1855	3121	1229 (c)	11818

NOTES: (a) Based on army of 125,000 enlisted men.

(b) Based on army of 118,750 enlisted men.

(c) Exclusive of Philippine Scouts.

(d) No allotment made to organizations in U. S. except for noncommissioned grades.

Total authorized enlisted strength and strength in grade of private left subject to adjustment.

e. It is seen from the above tables that officers are authorized for each 100 enlisted men on foreign service as follows: Panama, 3.1; Hawaii, 3.6; Philippines, 2.9.*

There have been frequent requests from both Panama and Hawaii for an increase in the proportion of officers to enlisted men in those commands. It is considered inadvisable further to increase the number of company officers on duty in these commands without an increase in the reservoir from which they are drawn in the United States, since at present approximately 28 per cent of the Coast Artillery captains and 37 per cent of the lieutenants are on foreign service.

*Including Philippine Scouts.

f. The following tabulation shows the progress that is being made in passing Coast Artillery officers through the Service Schools:

	Field Officers	Capt.	Capt.	1st Lts.	2nd Lts.
Army War College: Graduates	61				
Command and G. S. S.: Graduates	167	2			
Advanced Course, Coast Artillery School: Graduates	169	7			
To attend 1926-27 Course	22	3			
*Available in next 5 years	49	50			
Battery Officers' Course, C. A. School: Graduates			164	67	6
To attend 1926-27 Course			14	37	2
†Available in next 3 years			95	119	168

*Includes all Majors who have not had the course and all Captains who will probably be promoted by June, 1934.

†Includes all company officers who have not had the course.

* * * * *

On August 31, 1924, only 157 officers on duty in the United States had been at their stations for over one and one-half years; on February 28, 1926, this number had been increased to 294. On May 31, 1926, the average time Coast Artillery officers of each grade had been at their stations in the United States, including officers on student status, was as follows:

Colonels	20 mos.	Captains	20 mos.
Lieutenant Colonels	24 mos.	1st Lieutenants	15 mos.
Majors	19 mos.	2d Lieutenants	17 mos.

* * * * *

f. *Distribution of Coast Artillery Reserve Officers, June 30, 1925.*

Group	CORPS AREA									Pan. Dept.	Haw. Dept.	Phil. Dept.	Total
	1st	2nd	3rd	4th	5th	6th	7th	8th	9th				
G. A.				1									1
B. A.	17	29	62	118	11	31	6	62	3	2	1	4	346
T. A.	548	554	480	472	174	323	363	110	413	8	19	10	3474
Total	565	583	542	591	185	354	369	172	416	10	20	14	3821*

*Does not include National Guard officers holding Reserve commissions.

* * * * *

In general, satisfactory progress has been made in the procurement and assignment of Coast Artillery Reserve officer personnel. Comparatively few vacancies exist in the grades of lieutenant colonel and major. This appears to be a result of the liberal policy with reference to promotion in the Officers' Reserve Corps.

A large surplus exists in the grade of second lieutenant. This being the grade of entry, such a surplus is to be expected. This office has recommended that the present regulations be amended to remove the restrictions on appointments in the grade of second lieutenant, even

though a surplus exists. As long as the comparatively greater shortage obtains in the grades of first lieutenant and captain and in the total commissioned requirements, there appears to be no necessity for restricting appointments to the grade of second lieutenant.

* * * * *

k. Warrant Officers, Army Mine Planter Service.—Each of the eight Army Mine Planters is authorized 1 master, 1 chief engineer, 1 first mate, 1 second mate, and 1 assistant engineer, making a total authorized strength of 8 masters, 8 chief engineers, 8 first mates, 8 second mates, and 8 assistant engineers. No reserve is authorized to provide for temporary losses due to leave of absence, sickness, travel upon change of station, and other causes. The replacement of warrant officers on foreign service, especially, requires mine planters in the United States to withstand extended losses of this nature. A reserve of one warrant officer in each grade should be authorized and provided in order to cover these constantly occurring losses.

l. Distribution of Enlisted Specialists on June 30, 1926.

	IN U. S.		IN FOR. GAR.		TOTAL	
	Auth- orized	Actual	Auth- orized	Actual	Auth- orized	Actual
Sergeants Major:						
Master Sgts., Tech. Sgts., and Staff Sgts. (Clerical)	70	72	30	29	100	101
Electricians:						
Master Sgts., Tech. Sgts., and Staff Sgts. (Electrical)	184	176	90	90	274	266
Master Gunners:						
Master Sgts., Tech. Sgts., and Staff Sgts. (Artillery)	27	29	13	13	40	42
Radio Sergeants:						
Master Sgts., Tech. Sgts., and Staff Sgts. (Radio)	31	32	19	18	50	50
TOTALS	312	309	152	150	464	459

The situation with reference to enlisted specialist personnel, highly trained technical specialists appointed by the Chief of Coast Artillery, is now more favorable than it has been for some time. Sufficient eligibles were obtained from the graduating classes at the Coast Artillery School in June to fill all existing vacancies.

* * * * *

m. Replacement of Noncommissioned Officers on Foreign Service.—War Department instructions published in January, 1926, instituted an important change in the manner of replacing noncommissioned officers of the Coast Artillery in foreign garrisons. Unsatisfactory replacement conditions had existed for some time and were the subject of frequent and extensive reports and studies. These conditions were due primarily to the large proportion of Coast Artillery noncommissioned officers—approximately one-half—required for duty in foreign garrisons and to the consequent burden imposed upon units in the United States. Coast Artillery organizations in the United States were

subjected to such frequent turn-overs of noncommissioned officer personnel that serious interference with their training resulted. The frequency with which noncommissioned officers were required to serve in foreign garrisons was also a source of much personal hardship to them and to their families, and the resultant dissatisfaction was causing many of them to leave the service or seek transfers to other branches.

The plan adopted provides that hereafter no sergeants of the Coast Artillery will be sent to foreign garrisons as replacements except in comparatively few cases. Commanders of organizations in foreign garrisons are thus afforded the opportunity to appoint a greater number of their noncommissioned officers than obtained under the old system and the organizations in the United States are relieved of the burden of furnishing noncommissioned officer replacements. A plan similar to that adopted for the replacement of noncommissioned officers of the Coast Artillery has since been adopted for sergeants of the Infantry, Field Artillery, Ordnance Department, and the Corps of Engineers.

n. Civilian Personnel, Office Chief of Coast Artillery.—The Office of the Chief of Coast Artillery consists of 10 officers, 8 enlisted men, and 13 civilian employees. The average length of service of the civilian employees is 9.5 years. The average has been considerably reduced by the necessity of obtaining three new employees to fill vacancies during the two preceding years. One employee has been on continuous duty in the office 20 years, two 18 years, and one 15 years. The unusually high average in years of service obtaining among the civilian employees is of material benefit to the government. There are at least four positions which, it is believed, would require, if vacated, the services of two inexperienced employees each in order to continue the mechanical portion of the clerical and administrative work with the same degree of efficiency which now obtains; it would require a long training to give new clerks the knowledge of technical terms, of the War Department policies, and of the history of important projects. It is therefore considered important that the experience and efficiency of the present employees be recognized in every way practicable. The current appropriation (fiscal year 1927) for salaries of employees in the Office of the Chief of Coast Artillery is \$1200 below that of the previous year. This not only embarrasses efforts to make well earned regradings, but also has necessitated the reduction of some efficient employees. Due to the reduction in appropriations, 77% of the employees are now drawing below the average salary of their respective grades, although efficiency reports in each case would permit them to draw at least above average salaries. Estimates submitted for the fiscal year 1928 are based

on plans to begin the correction of this condition, and it is hoped that, in the interests of the federal service, the estimates will be approved as submitted.

* * * * *

4. TRAINING.

a. General.—The training problems which have been presented to the Coast Artillery Corps during the past year naturally divide themselves as follows:

(1) Those incident to the maintenance of a high state of training of harbor defense Coast Artillery units.

(2) Those incident to the development of efficient methods and suitable materiel to insure accuracy of fire and correct tactical employment of railway and tractor drawn Coast Artillery units.

(3) Those incident to the similar development of the several parts of the antiaircraft service.

Details of these problems are herewith dealt with under appropriate headings.

As stated in the report of my predecessor for last year, the normal training of the Coast Artillery Corps and the solution of special training problems has been accomplished under disadvantageous conditions due to the present small size of the Coast Artillery Corps and to the gradual but steady reduction in funds available for target practice ammunition, for new types of materiel, for the transportation of personnel and materiel, and for inspections. Notwithstanding these conditions a comparison of results with those of last year is encouraging. These results have been made possible only by the loyal and wholehearted cooperation of the officers and enlisted men of the Corps.

A further reduction in the amount of time Regular commands are required to devote exclusively to the training of the other Coast Artillery components of the Army has resulted in the improved efficiency of such Regular units. It is hoped that the time any Regular command must devote exclusively to training other components of the Army will, in the future, not exceed a period of two consecutive months each year. Even so, the necessary activities incident to preparation for this duty will absorb much of the time formerly available for the training of the Regular organizations exclusively.

During the year there has been indicated a desire on the part of most regimental, group, and battalion commanders to simplify and decentralize their control over the training of their subordinate units by means of less voluminous and detailed training directives. But there is still room for further simplification of training programs, schedules, and records of training performances.

* * * * *

It is believed that G. O. No. 9, War Department, c. s., will serve to secure an increasing latitude and initiative for commanders of lower echelons.

Training directives issued by commanders of Coast Artillery National Guard and Organized Reserve units continue to show improvement and indicate an increased appreciation of their responsibility for the armory, inactive period, and field training of their units.

b. Training of Harbor Defense Units.—The battle efficiency of Harbor Defense Commands can not be accurately determined in time of peace. The best measure of such efficiency is found in making a careful study of the results of performances at target practice and at tactical inspections. The following table shows the proficiency ratings given Harbor Defense firing batteries of the Regular Army by Coast Artillery District Commanders during the years 1924 and 1925, in which performance at target practice, at the tactical inspections, on the small-arms range, in summer training camps, and in care of materiel are given appropriate weight.

Grade	% Qualifying	
	1924	1925
Excellent	3.1	34.9
Very Good	22.7	34.0
Satisfactory	65.6	26.4
Unsatisfactory	8.6	4.7

The requirement for small arms practice has been that 80% of those firing in each organization should qualify as marksmen. In 1924 only 18.8% of the Harbor Defense units attained the required qualification; in 1925 this percentage was increased to 43.8—a gratifying evidence of progress.

The following table shows the amount of training undertaken in the active Harbor Defense Commands in the United States during 1925. This indicates the wide differences of requirements in the scope of their duties, which must be considered in determining relative efficiency.

Corps Area	Harbor Defense Command	Number Forts Cared For	C. A. Personnel Officers and Enlisted Men		Units Trained			
			Officers	E. M.	N. G.	O. R.	R.O.T.C.	C.M.T.C.
1st	Portland	6	10	124	1	0	0	
	Boston	9	12	224	0	1	0	
	Narragansett Bay	5	10	138	0	0	0	1
	Long Island Sound	4	26	407	5	2	0	1
2nd	Sandy Hook	2	20	331	0	4	0	1
	*62d Coast Artillery (AA)	2	26	526	0	3	0	
3rd	Chesapeake Bay	3	35	428	6	4	1	1
	Fort Eustis, Va.		43	879	†1	1		
4th	Barrancas	3	18	216	1	5	1	1
9th	Los Angeles	1	14	205	1	†1	0	0
	San Francisco	5	21	303	2	5	0	1
	Puget Sound	6	22	296	1	2	1	1

* At Fort Tilden, L. I.

† A 155-mm. Field Artillery Regiment.

‡ A Military Police Battery.

c. Training of the Antiaircraft Service.—The antiaircraft tests held by the 62d Coast Artillery (AA) at Fort Tilden, N. Y., during the months May to September, 1925, referred to in my predecessor's report of last year, were of the greatest value in contributing to our knowledge of the efficiency of antiaircraft gun and machine-gun fire against air targets, and of the ability of searchlights directed on data furnished by sound locators to pick up planes at night and to hold them in the beam.

The result of all antiaircraft gunfire at Fort Tilden gave 4.67% of hits on the target then prescribed, at a rate of fire, for a four-gun battery, of 43.4 shots per minute, or a hit each 30 seconds. The .30-caliber antiaircraft machine guns obtained 0.341% of hits on the sleeve target, firing 2881 shots per minute for a battery of eight guns, or 10 hits a minute. The corresponding figures for the .50-caliber machine guns were 0.178% and 2.48 hits per battery per minute.

The 3-inch guns, ammunition, and range-finding apparatus in use, with the exception of the stereoscopic height finder used from July 15 to the end of the tests, were of war-time design and manufacture.

Following the Fort Tilden exercises, studies were made in this office, at the Coast Artillery School, and by the Coast Artillery Board which have been reflected in marked advances in accuracy of fire and the precision with which searchlights locate planes at night. The following table shows the comparison in gunfire (the figures include all practices for which reports have been received).

	Fort Tilden, 1925	All batteries, first half of 1926
Total shots fired at moving targets	4343	727
Hits	203	68
Percentage of hits	4.67	9.35
Hits/Battery/minute	2.03	3.50
Shots/Battery/minute	43.4	37.4
Slant range (yards)	3962	3844.
Horizontal range (yards)	3524	3377
Altitude (yards)	1890	1837
Ground speed of plane	60.7	67.4

It should be noted that the antiaircraft target prescribed for 1926 (which is based on the distribution of effective fragments of the World War 3-inch ammunition) is only 33.85% the size of the target prescribed for 1925.

* * * * *

d. Training of Railway Artillery Units.—

* * * * *

Omitting the movement of the 14-inch railway gun from Aberdeen Proving Ground to Fort MacArthur, Los Angeles, California (referred to under Materiel), and the emplacement of certain materiel at Fort

Hancock, New Jersey, with a view to establishing a center for Organized Reserve railway artillery units, funds have not been available for any rail movement of this class of artillery except over limited government trackage on reservations. Much could be accomplished in forwarding railway artillery training if funds were made available for a limited movement of the 52d Coast Artillery (Ry) from Camp Eustis to the Virginia Capes and return.

The following table compares the ratings of railway artillery batteries in 1924 and 1925.

<i>Grade</i>	<i>Qualified</i> 1924	<i>Qualified</i> . 1925
Excellent	0.00	16.67
Very Good	6.25	33.33
Satisfactory	75.00	50.00
Unsatisfactory	18.75	00.00

e. Training of Tractor-Drawn Units.—

* * * * *

The training of this class of artillery has been satisfactory in so far as target practice results are concerned, but there is need for further development in the methods of determining ranges to naval targets by means of a self-contained range finder easy of transportation and installation. The 51st Coast Artillery (TD) stationed at Fort Eustis, Virginia, is now testing a number of such range finders to determine their suitability for this work.

The tactical employment of this class of artillery against naval targets has been made the subject of a new training regulation issued to the service during this year. This will be subjected to a careful test to the limit made possible by the present allowance of motor fuel. As the primary mission of this class of Coast Artillery unit is to deliver accurate and rapid fire on naval targets in coast defense after taking up a position in minimum time, it is essential that training include movement as well as fire tactics.

The following table gives the ratings of tractor drawn Coast Artillery batteries during the years 1924 and 1925.

<i>Grade</i>	<i>Qualified</i> 1924	<i>Qualified</i> 1925
Excellent	5.17	31.75
Very Good	1.72	20.63
Satisfactory	81.04	36.51
Unsatisfactory	12.07	11.11

* * * * *

g. The Coast Artillery School.—In last year's report there was mentioned, as one of the leading features of the year's work at the school, the lengthening of the Advanced Course for Regular officers

from five and one-half to nine months. This year has seen gratifying results of this action in the broader knowledge gained both of Coast Artillery tactics and of the other combat arms.

* * * * *

Air Corps instruction has also been featured for the first time in the school. Such instruction tends to acquaint Coast Artillery officers with the fundamental principles of the employment of the Air Corps and familiarize them with the characteristics, powers, and limitations of Air Corps materiel.

* * * * *

(4) The following table shows the officers' courses which were given at the Coast Artillery School during the year together with the number successfully completing the several courses.

<i>Course</i>	<i>Duration</i>	<i>Number of officers completing course</i>
Advanced	9 months	28
Advanced Engineering	4½ months	3
Advanced Gunnery	4½ months	3
Battery Officers'	9 months	49
Refresher	3 months	3
Special for N. G. and O. R.	8 weeks	24

It is believed that the several courses as now given at the Coast Artillery School are so constituted that the approved mission of the school is well carried out and that the correct amount of time is being devoted to the study of the characteristics of the other arms and the functioning of the reinforced brigade.

(5) The following courses were given for enlisted men together with the number of men completing the same.

<i>Course</i>	<i>Duration</i>	<i>Number of enlisted men completing course</i>
Artillery	9 months	5
Engineering	9 months	35
Radio	9 months	7
Clerical	9 months	18

The courses given enlisted men have been modified to include more time devoted to basic mathematical instruction, especially in the Engineering and Artillery Courses.

The Enlisted Specialists' School is somewhat hampered by the lack of funds to purchase up-to-date materiel, such as is now found in some of the more modern fortifications. This is particularly true of the materiel pertaining to the latest design of searchlights, internal combustion engines, and radio equipment.

(6) I desire again to call attention to the very unsatisfactory housing conditions now existing at the post of Fort Monroe and the Coast Artillery School. At this time it is necessary to quarter some fifty-six officers in temporary buildings, which are remodelled war construction barracks, and in an old hotel building, now owned by the Government and situated on the Fort Monroe reservation known as the Sherwood Inn. All of these buildings are of frame construction and have reached the limit of safe occupancy.

* * * * *

At best, these buildings can not be utilized as quarters for officers after the year 1930 without very major alternations and repairs being made on them, which is not considered justified. Should the Sherwood Inn be destroyed by fire or a fire originate in the thickly congested area now containing most of the temporary buildings occupied as officers' quarters, it would become at once necessary to decrease the student body of the Coast Artillery School or to place a number of officers on a commutation status in the neighboring towns, the nearest of which offering adequate accommodations is ten miles distant from Fort Monroe.

It is considered essential that steps be taken to construct at an early date a brick apartment house capable of housing fifty-six married officers and containing suitable dining-room and kitchen facilities.

h. The Coast Artillery Board.—The Board as now constituted consists of three Coast Artillery officers, one Ordnance officer, and one Signal officer.

The purpose of the Board is to consider subjects pertaining to the Coast Artillery Corps upon which the Chief of Coast Artillery may desire the Board's opinion and recommendations, and further to initiate new projects pertaining to Coast Artillery development. This work naturally divides itself into the following classes:

- (1) Developing and testing new articles of equipment.
- (2) The study of gunnery problems affecting Coast Artillery fire.
- (3) The review of Coast Artillery target practice results.

The following table shows status of the Board's activities.

<i>Projects</i>	<i>Number</i>	<i>Completed</i>	<i>Remaining</i>
Remaining from last year	32	21	11
Received from O. C. C. A.	83	71	12
Originated with Board	16	13	3
Totals	131	105	26

The above enumerated projects have in general pertained to the following subjects:

Seacoast Artillery Materiel, Guns and Ammunition.

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Fire Control for Seacoast Artillery.

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Antiaircraft Guns and Ammunition.

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Fire Control for Antiaircraft Guns.

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Radio.

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Miscellaneous.

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l. Training Inspections.—Inspections under the provisions of A. R. 265-10 were made during this year by representatives of this office of nearly all Coast Artillery commands within the United States and of all such commands in the Panama Canal Zone. The scope of these inspections was confined to Coast Artillery training activities and to an inspection of Coast Artillery materiel.

One of the many benefits derived from these inspections of Coast Artillery commands was that of standardizing instruction pertaining to gunnery and target practice methods and correct tactical employment of the several classes of Coast Artillery units. This end was accomplished by means of conferences held by the inspectors with all officers on duty with each command.

A benefit of no less value was that derived from ascertaining the present condition of the immense amount of artillery materiel which of necessity has been placed "out of service" in the hands of small caretaker detachments in all of the fortifications in the United States. The desire of this office, which has the approval of the War Department, is to keep this materiel in such condition that it may be placed "in service" in the minimum time in case of emergency.

The continuation of these inspections by representatives of this office will permit me intelligently to advise the War Department on matters affecting Coast Artillery branch efficiency and the state of preparedness for immediate use of the materiel located in the seacoast fortifications.

j. War Plans.—During the past few years certain harbor defenses in the Continental United States provided with fixed armament have been abandoned as fortified points. This situation has been brought about by the fact that these harbor defenses are of comparatively small strategical value and also for economic reasons.

Furthermore, certain additional harbor defenses which are considerably withdrawn from the seashore, and known as inner harbor defenses, are listed for abandonment by the War Department. However, the abandonment of these inner harbor defenses has been held in abeyance upon recommendation of frontier commanders until funds are provided for the approved installations at more advanced sites.

Harbor Defenses already abandoned include the following:

Harbor Defenses of New Orleans
 Harbor Defenses of Mobile
 Harbor Defenses of Tampa
 Harbor Defenses of Savannah
 Harbor Defenses of Cape Fear

Harbor Defenses listed for abandonment under the conditions noted above are—

Harbor Defenses of Eastern New York
 Harbor Defenses of Baltimore
 Harbor Defenses of the Potomac

* * * * *

k. Army Correspondence Courses and Training Regulations.—All texts of the Coast Artillery subcourses of the Army Correspondence Courses have been completed and submitted to the War Department with the exception of four. It is believed that these new texts will insure better results in the theoretical training of the Reserve officers than has heretofore been obtained.

The text of the Army Correspondence Courses is now believed to be of such quality that it can be utilized to excellent advantage in regimental troop schools. In the Coast Artillery this is especially true of the subcourses dealing with gunnery and the tactical employment of the several classes of Coast Artillery units.

* * * * *

n. Troop Schools.—It has been the belief of this office for some time that instruction in regimental troop schools, other than the Basic Course, is susceptible of greater standardization in scope and method. It is impracticable to send all young officers to the Coast Artillery School early in their careers. This office is now engaged in a study of a three-year course for use in troop schools, in the hope that this standardized course will serve to compensate in part for the delay; the texts of the Army Correspondence Courses will be the basis of this study.

o. Gunnery and Target Practice Results.—The procedure of issuing a confidential bulletin showing the results of all firings of the regular Coast Artillery regiments—harbor defense, railway, antiaircraft, and tractor-drawn—in order to stimulate rivalry in target practice, was fol-

lowed again in 1925. The following table is a summary of ratings of all four types.

<i>Rating of batteries for all classes</i>	1924	1925
Excellent	16.8%	38.1%
Very good	43.9%	46.2%
Satisfactory	39.3%	15.7%

There is still considerable room for improvement in standardizing methods of position finding and spotting and in rates of fire for all calibers of guns designed for fire on water targets.

Many junior officers having entered the Coast Artillery after the World War, it has been necessary first to lay considerable stress on training them in the various methods of adjusting fire on moving naval targets. Battery commanders and most battery officers have now reached a state of training in adjustment of fire which warrants more attention being paid to that rapidity of fire which would be required in a serious engagement.

There is need for long-range target practices for testing and developing air spotting and long-range fire control methods and equipment. It is hoped that such firings may be held at a suitable location in the United States in 1927.

p. R. O. T. C. Training.—Inspections of Coast Artillery R. O. T. C. units during the past year have indicated a generally healthy condition of training of such units under the present War Department training directive. However, for the sake of more uniformity in instruction and the featuring on terms of equality the methods of fire against moving water and air targets it has been necessary to recommend certain changes in the present course of instruction.

Owing to the decrease in funds allowed for transporting students to and from summer camps, it has not been possible to send all advanced students to camps in fortifications on the seacoast. In the summer training, beginning in June, 1926, it has been necessary to establish a camp in the Eighth Corps Area at Fort Sill, Oklahoma. It is, of course, not possible to give satisfactory instruction in fire against water targets at this location. This fact leads me to believe that there should be a relocation of certain Coast Artillery units in such a manner that all but three of the units will be located within reasonable distance of the seacoast. The remaining three units should be located as at present in the interior of the country and should major in antiaircraft.

The approval by the War Department of the establishment of a new unit in the Second Corps Area in the fall of 1926 will fill a long felt need in the procurement of new officers for the Organized Reserve units located in that Corps Area.

Coast Artillery units are now established in eighteen institutions with a total enrollment in June, 1926, of 4793 students. During the summer of 1925, camps were held at the following locations and trained the following number of students:

Fort Monroe, Virginia	351
Fort Barrancas, Florida	119
Fort Casey, Washington	40
	<hr/>
Total	510

During the year 1925, 318 graduates of the eighteen Coast Artillery R. O. T. C. units received commissions as second lieutenants of Reserves in the Coast Artillery Corps.

q. C. M. T. Camps.—The training of young men in Coast Artillery C. M. T. Camps during the year progressed in a satisfactory manner. Camps were held at the following places and trained the following number of candidates:

Fort Adams, R. I. (Harbor Defense training only) .	164
Fort Terry, N. Y. (Antiaircraft training only) . .	81
Fort Hancock, N. Y.	144
Fort Monroe, Virginia	437
Fort Barrancas, Florida	249
Fort Scott, California	106
Fort Worden, Washington	26
	<hr/>
Total	1206

r. National Guard and Organized Reserves.—The training of the National Guard Coast Artillery, during the year has produced a rather serious problem relative to the training of certain antiaircraft service units located in the center of the United States. The three active Regular aircraft units in the country are all located on the coast—Fort Totten, N. Y.; Fort Monroe, Va.; and Fort Scott, Calif. These regiments at the present time are training as many of the National Guard and Organized Reserve antiaircraft service units as is possible with available funds. It has not been found possible to send three of the National Guard units and several Reserve units located in the central portion of the United States to train with any of the three Regular commands. This situation emphasizes the need of an increase in the present strength of the Coast Artillery of about 350 men with suitable grades and ratings in order that there may be organized an additional antiaircraft unit to be located in the center of the country by means of which the units referred to above may be trained in an efficient manner.

5. MATERIEL.

a. For the past several years the limitation placed on estimates has resulted in practical cessation of work on approved plans in most of the harbor defenses of the Continental United States and appropriations have been insufficient to maintain an economic rate of progress in the defenses of our overseas possessions.

* * * * *

The Ordnance Department has on hand the guns and the majority of the carriages to complete the approved plans for long-range weapons at our most important harbors, and the priority has been established. It appears that the policy should be adopted of determining the most economic rate for completing construction, and the annual appropriation necessary for this purpose, as well as for fire control and searchlights, and presenting the facts to those having final determination with a view to having the necessary amount included in the budget each year until completed. It is believed that in large construction tasks a slow and irregular rate of progress makes for waste.

b. The development work of interest to the Coast Artillery Corps has progressed satisfactorily.

(1) There has been developed, under direction of the Chief of Engineers, a mobile searchlight, designed especially for illuminating aircraft, which is greatly superior, both for antiaircraft and seacoast use, to anything heretofore produced. Nine have been supplied; eight of these have been issued for use and the ninth held for experiment with a view to further improvements.

(2) The star shell promises to be valuable in augmenting the searchlight in illuminating naval targets; an extensive test will be carried out by the Coast Artillery Board this fall.

* * * * *

(4) Special attention has been given by the Ordnance Department to the development of antiaircraft artillery, automatic weapons, and fire-control equipment. The improved appliances that have been developed during the past year will, in the near future, be given a thorough service test by Coast Artillery troops in cooperation with the Ordnance Department activities at Aberdeen Proving Ground. Representatives of the Engineer Corps, Signal Corps, and Air Corps have been designated to assist in the tests. It is believed that the close coordination of effort expected in this service test will be of great value to all interested branches and will insure the maximum improvement in materiel with the latest practicable delay. The time has arrived when a program of procurement of antiaircraft materiel should be decided upon.

(5) The Ordnance Department has undertaken also certain modifications of the rotating bands of our present six-inch projectiles that will give them better ballistic qualities and increase both range and accuracy.

(6) The development of modern fire-control equipment has been continued by the Ordnance Department and some instruments have been issued for service test. The pilot model of the long-range plotting board for use with the 16-inch gun batteries is nearing completion and should soon be ready for service test. It is hoped that the new long-range depression position-finding instrument may be tested during the coming year.

(7) The most important service test of Ordnance equipment conducted by the Coast Artillery Corps during the past year was in connection with the transportation of the new 14-inch railway gun across the country on its own wheels. The successful movement of this gun by rail from Aberdeen Proving Ground, Md., to Fort MacArthur, Calif., has proven the strategic mobility of this heavy weapon and it is believed the long-range firing at towed target that will be conducted in the near future will confirm its value as a coast defense weapon.

(8) A test of considerable importance has been conducted by the local authorities at Fort Grant, C. Z., where an inexpensive emplacement has been improvised for the 155-mm. gun that will greatly increase its serviceable arc of fire and efficiency against naval targets. The Ordnance Department is now making experiments in expectation of giving a certain degree of armor penetration to the 155-mm. ammunition on hand.

c. Submarine mine materiel has not been maintained in satisfactory condition during the past year due to the fact that sufficient funds have not been available for the replacement of rapidly deteriorating cable. Two new systems of submarine mine control, involving the substitution of a small cable for the expensive 19-conductor cable now required, are being investigated with view to a service test.

d. The present serious shortage of Coast Artillery personnel, the large amount of equipment that must be cared for, and the very damp magazines of many of our older batteries make the keeping of all elements in satisfactory conditions and extremely heavy task. In order to prevent projectiles from rusting, it is necessary that they be cleaned and repainted, at intervals of time depending upon local storage conditions. This work is being done in so far as it is practicable with the force available. In the IX Corps Area large transfers of ammunition, to secure better storage facilities, have been accomplished.

6. CONCLUSIONS AND RECOMMENDATIONS.

a. The Coast Artillery Corps now contains so many inactive units that a considerable period for mobilization and training would have to

be allowed before the corps could play its part in the plans for National defense.

b. The personnel is sufficient to continue its training in all types of armament assigned (except trench artillery) and to keep abreast of the developments of the art; in this latter the Coast Artillery School is an invaluable asset and it is imperative that its work be not interrupted by lack of housing for the student officers.

c. Cooperation between this office and that of the Adjutant General has resulted in extending the time officers remain on duty at stations, in considerable economy in transportation, and in an improved system for the enlisted replacements in overseas garrisons.

d. By elimination and by training, the Office of the Chief of Coast Artillery has developed a clerical force of great value to the service. Recognition of the increased amount of work done by the reduced force should be granted; regradings, where deserved, should be authorized.

e. The regiments of the corps have met a very heavy training requirement with high spirit and with success. It is believed the accomplishments at the summer training camps are greater than ever before.

f. Training of antiaircraft units of the National Guard, Organized Reserves, and R. O. T. C. in the central-west is handicapped by there being no regular unit in that area, and insufficient funds for the transportation of personnel to our training centers.

g. While a satisfactory condition of caretaking continues, there should be more frequent inspections of inactive harbor defenses. The property in storage, including the large quantity of projectiles and explosives, is of great value. Its preservation depends upon the active interest of the members of small and frequently isolated detachments and their willingness to work faithfully under very little supervision. Inspections, indicating appreciation of the importance of their duties, are considered essential to the maintenance of morale.

h. Larger appropriations for continuing the defensive installations in overseas possessions and for fire control of all long-range batteries are necessary in the interests of economy.

i. The cooperation of the Engineer Corps, the Ordnance Department, and the Signal Corps in the development of improved materiel has been cordial, and the progress made most encouraging.

j. The time is near when a program for the production of necessary war reserves of antiaircraft materiel should be approved as a major policy and the necessary appropriations provided.

k. It is recommended that a study be made with a view to the redistribution to branches of authorized personnel. Prior to the National Defense Act of 1916 the strength necessary for the Coast Artillery Corps was determined by the General Staff to be a complete manning

party for overseas possessions and for all submarine mine systems, and one-half of one manning party for the seacoast guns of the Continental United States; that Act provided this force. The Mobile Army was small and it was deemed essential to be prepared to delay the occupation of any strategic harbor until the field forces could be reinforced and concentrated. With the National Defense Act of 1920 the strength of the Coast Artillery Corps was not increased although a considerable portion of that strength was withdrawn from fixed defenses to man the new types of armament added to the responsibilities of the corps. This was not illogical as the other combat arms were greatly increased in strength and improved in organization; the prompt concentration of an effective field force had been made possible.

But successive reductions of the Army have left the situation demanding readiness in important harbors identical with that obtaining in 1916. Nevertheless, instead of strengthening the harbor defenses as the available field force was reduced, the opposite policy has been followed, and the Coast Artillery Corps has stood at least its percentage cut in all reductions.

I wish to renew the recommendation on this subject of my predecessor in his report of 1924.

Very respectfully,

ANDREW HERO, JR., *Major General, U.S.A.*
Chief of Coast Artillery.

To the Secretary of War.

APHORISME VI.

A Will to doe hurt is more dangerous in the close, than a professed enemy, because he that suspecteth least, is soonest and easiest overthrown: like the unskilfull Fencer, who, while he wardeth the head, is hit at the heart, which lay out of guard.—Ward's Animadversions of War (London, 1639).

The Training of a C. M. T. C. Antiaircraft Battery

By CAPTAIN CLARENCE E. BRAND, C. A. C.

Second Prize Target Practice Essay Competition

THE average C. M. T. C. battery is composed of school boys. The grades represented vary from the senior grammar school grades to college seniors. Practically all the students can be credited individually with receptive minds which can be made to absorb understandingly a large amount of information in a short time, and collectively with an unusual facility for mechanical training into gun squads, range sections, or drill teams of any kind necessary in a military organization. This is fortunate since the time available is but one month, and the ground which it is desirable to cover comprises, in condensed form, an entire artillery training season from gunners' instructions to and including service target practices. For the C. M. T. C. antiaircraft batteries which it is here proposed to discuss this included both three-inch gun and machine-gun target practices for each battery.

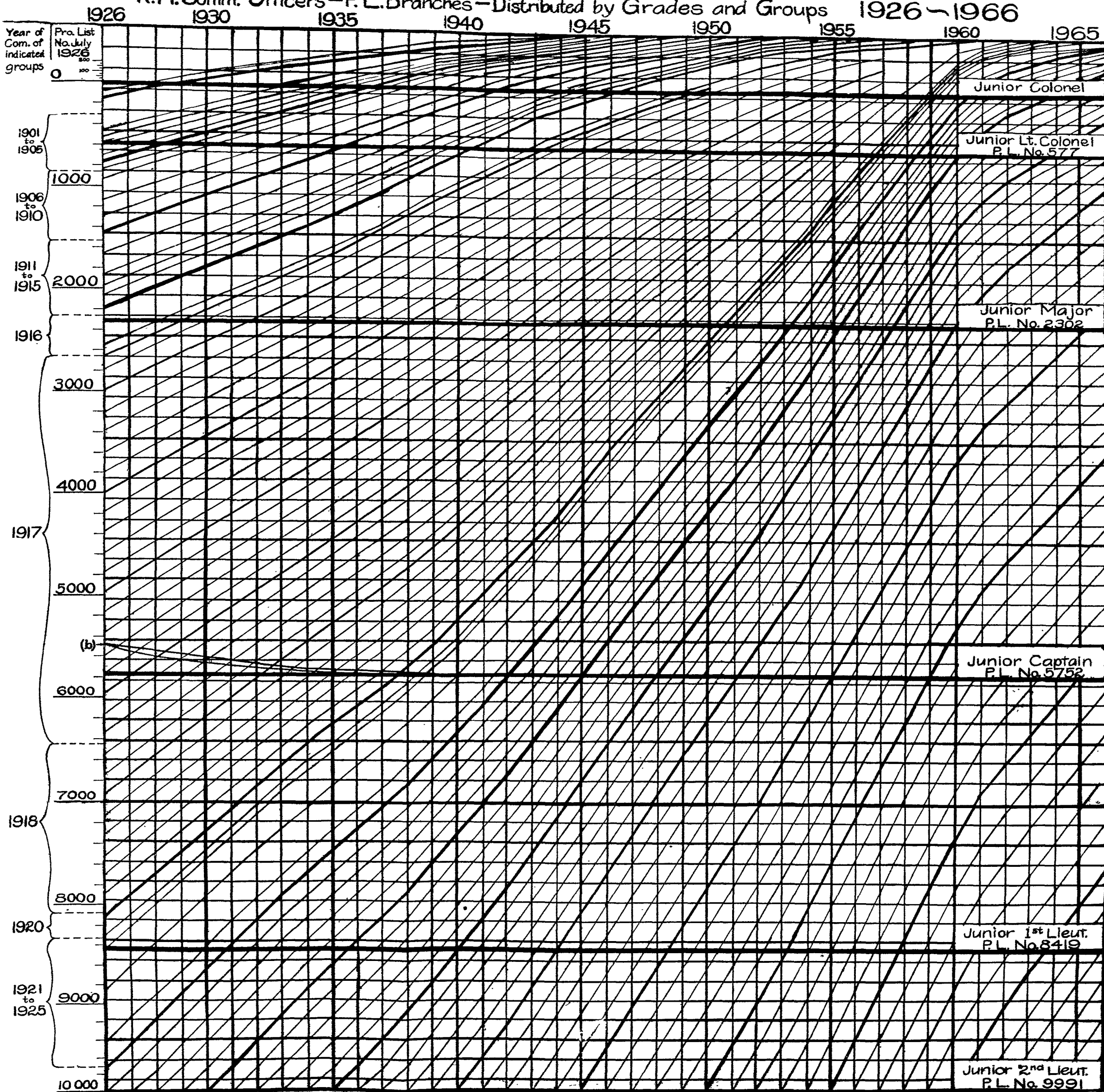
The time allotted was a 1½-hour drill period and a 1-hour gunners' instruction period in the morning and a 1-hour gunners' instruction period in the afternoon. This continued for the first three weeks. Gunners' instruction was then omitted and all the afternoons from 1:00 to 3:30 became available for drill and firing. Additional time was available throughout for the instruction of advanced students (White and Blue). The schedule providing for the use of the allotted time was made months in advance; and nothing, such as the occasional presence of distinguished visitors, was permitted to interfere with it. Inspectors saw what was scheduled to be going on that day. No "shows" were put on for anybody.

The 150 Red, White, and Blue students were divided into two firing batteries of 75 men each. There were two regular officers on the gun work (2 guns and range instruments) and two with the machine guns (8 guns), in addition to the Supervising Antiaircraft Instructor, who was the Captain of the regular antiaircraft battery which was the parent organization for the camp. In addition there was a small trained cadre

Chart B

R.A. Comm. Officers - P.L. Branches - Distributed by Grades and Groups

1926 - 1966



NOTE (a) - The chart shows the position of the junior officer of each of the groups indicated on the list of General Officers of the Line and officers of the Promotion List Branches on July 1, of each year. The smallest division in the vertical scale represents 200 numbers. Readings should be made to the top edge of the heavy horizontal lines.

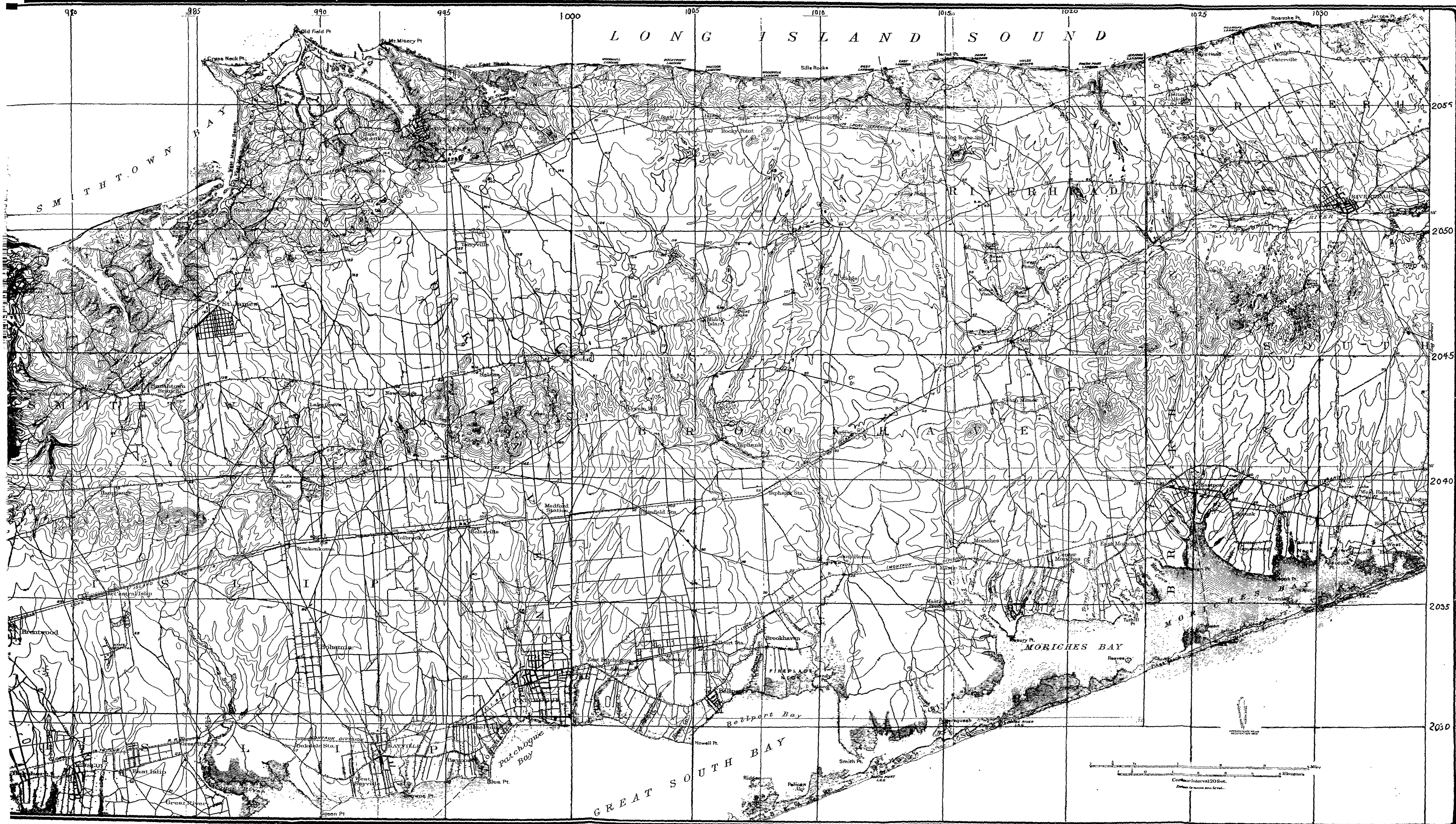
NOTE (b) - Due to the submerged captains distributed throughout the list of 1st lieutenants, promotion to grade of captain will not occur when the number 5752 is reached on the promotion list, but will be delayed until an additional number of files, equal to the number of submerged captains at that time, has been gained.

The diagonal line running from (b) to about the 1935 year line indicates the points that must be reached by the various promotion list numbers before promotion is to be expected.

NOTE (c) - The fundamental data for this chart is taken from chart on page 3 (S.R. 181) prepared by the Statistics Branch, General Staff, War Department 6-7-24. The Promotion List Numbers on the left have been added and the 1917 & 1918 groups broken up into groups of about 200 each.

(Prepared in the Office of the Chief of Coast Artillery, Sept. 25, 1926.)

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of enlisted men from the parent organization for the guns and a similar cadre for the machine guns. Each C. M. T. C. battery alternated on the guns and machine guns, so that the regular instructors were constantly occupied with one battery or the other.

Each battery was promptly organized into machine-gun platoons, sections, and squads, and into provisional gun and range sections. However instruction during the first two weeks was mostly individual. Men were rotated in drill and in gunners' instruction both for instruction purposes and, in the case of the drill, to enable the instructors to select the most apt individuals for the more important positions. At the beginning of the third week each man was given a permanent assignment in drill and thereafter drilled in this position only. In this manner two important ends which are somewhat conflicting were harmonized: namely, (a) although individual instruction was given in all subjects and positions, and (b) drill teams of creditable proficiency were developed.

The spirit of competition, well recognized as a potent force toward C. M. T. C. proficiency, was exploited to the fullest extent and, it is believed, in a very healthful manner. The benefits of the inter-battery competition already in force in the camp was preserved by taking care to keep batteries intact for their antiaircraft training. Thus each anti-aircraft battery was composed of the Reds, Whites, and Blues of two of the regular C. M. T. C. batteries, the majority of whom were Basics. C. M. T. C. Battery "A" therefore became Platoon "A" of the First A.A. Machine Gun Battery, and simultaneously Range Section "A" of the First A. A. Gun Battery. This preservation of the integrity of batteries not only added the smartness of *esprit* to the drill, but also greatly accentuated the interior organization of the A. A. batteries and placed much more sense of responsibility upon the Blues and Whites who were in command of the subordinate units.

Gunners' instruction was recognized at once as the ideal means of general individual instruction—and practical instruction, too, which would fit every individual for the drill position to which he should be assigned. Great care was therefore exercised in planning and preparing for this instruction. Model airplanes, cordage boards, jacks, gins and shears, field telephones with lines and a switchboard, all set up for use, some dissected pistols and machine guns with large colored charts showing all details of nomenclature and operation, the range instruments, the guns themselves, and sectional ammunition displays—all these were provided in addition to a Gunners' Instruction pamphlet for each student. And very much more was gotten from the demonstrations by instructors with the actual subjects of instruction than could ever be gotten from the pamphlet—and in a very small fraction of the time.

Each officer specialized in a particular subject and gave all instruction in that subject. This was done not only to secure the benefits of specialization, but also to insure standardization of instruction. Students were rotated from one subject to the next as rapidly as their own proficiency would permit. A Record of Instruction card was kept for each student showing his name, grade and battery, and listing the various subjects covered by the instruction. When a student joined a class he brought his card with him and gave it to the instructor. When he was judged proficient in that subject, as determined by questions which formed a large part of the instruction, he was given a pass to the next subject by the instructor, who initialed his own subject on the card and sent the student with his card to the instructor of the next class. The cards in the possession of each instructor at the end of the period constituted his roll call for the next. At some time before the next period he wrote the date after his subject on each card, which therefore constituted a record of attendance for the student in each class. After the dates showed for any student a given maximum of periods of attendance in any class (this number also being printed on the card) he was passed on to the next class with whatever mark he was judged to merit at that time whether proficient or not. After the second-class subjects of any student's card were all initialed he was given his second-class examination. The first-class and expert instruction and examinations were conducted in the same manner.

A magnificent opportunity to capitalize the idea of competition presented itself in connection with the gunners' instruction, provided only that a thorough and competent examination could be given each individual. It was estimated that any oral examination that would be of any value at all would require a minimum average of three minutes per subject per student, or some fifteen minutes per student for the second-class examination; and this would not be thorough. Yet it would require a total of about 40 hours, or 8 hours per instructor for the second-class examinations alone. Obviously the time was not available for even such a makeshift exam. It was necessary to devise some other means. Following the latest development in pedagogy, therefore, the possibilities of the system described below were investigated. A set of questions for one subject was made up and tried out on some of the enlisted assistants. There was no further question as to its plausibility. The system was adopted with enthusiasm by all the instructors for all examinations.

There follows a specimen set of questions. This is one of the subjects of the first-class gunners' examination, and counts ten points.

FIRST CLASS GUNNERS' EXAMINATION

PRESERVATION OF MATERIEL

Subject No. 3

Value: 10

(Score _____)

1. All bright surfaces of a gun, such as the breechblock, should be kept dry and polished. True—False
2. The inside of the bore should be coated with grease or oil except when it is being fired. True—False
3. All brass or bronze parts of the gun should be protected by a coat of oil. True—False

Write the name of the oil or lubricant used on the following parts:

4. In the recoil cylinder: _____
5. On the breechblock: _____
6. In oil holes: _____
7. In grease cups: _____
8. On heavy gears: _____
9. On delicate bearings of the range instruments: _____
10. Emery cloth and sandpaper should be used freely on bearings in order to keep them bright. True—False
11. Rust can form on a metallic surface which is covered with oil. True—False
12. Dirty grease can easily be removed from a metallic surface with—engine oil—kerosene—sal soda solution—water.
13. After firing a gun the bore should be cleaned with—hydrolene oil—kerosene—engine oil—sal soda solution.
14. Water is better than oil for cleaning the bore of a gun which has been fired. True—False
15. After the bore has been cleaned it should be dried out and left dry. True—False
16. Brass will rust if left exposed to the weather. True—False
17. Paint will protect an iron or steel surface from rust if such surface is clean, dry, and free from rust when painted. True—False
18. Kerosene is a good lubricating oil. True—False
19. Gasolene can be used for cleaning purposes. True—False
20. Crocus cloth is coarser than emery cloth. True—False

The entire examination (second-class, first-class, or expert) in the above form is given to the student at one time. Each complete examination consists in from 150 to 200 questions and covers from four to five mimeographed sheets. The time required to complete an examination varied from one-half hour to one and one-half hours, the average being between forty-five minutes and an hour. It will be noted that the 20 specimen questions cover the subject quite thoroughly. Yet they may easily be answered in two minutes. One could hardly spend more than five minutes on them. The instructor may score them within half a minute, or at a rate of about 150 per hour.

It will be noted that there are three general types of "questions" (they, of course, are not *questions* at all): first, and most common, the "true-false" type, in which the student determines whether the statement as it is written is true or false, and indicates same by a check mark; second, the "selective" type, in which the student selects one of three or four stated alternates as the correct word or figure in a statement presumed to be true; and, third, the "completion" type, in which the student writes the word or figure required to complete a statement presumed to be true. No writing whatever is required of the student except in the third type, and there but a single word or figure is written.

One of the main advantages of this type of examination other than the extreme rapidity with which a very thorough examination may be given and marked—which is the most important—is that scoring must be absolutely fair and according to a single standard, since every answer must be right or wrong, with no middle ground. Marking the papers, in fact, becomes a stereotyped matter which any clerk may do as well as an instructor. A "key" to the correct answers is carefully prepared by the instructor, and thereafter the papers are marked with reference to this key, the instructor or clerk simply glancing down the right margin of the paper being scored noting the check marks but without taking the time to read the typed statements. If any mistakes are made in scoring they are quickly enough found by the students, who are cautioned when the papers are returned to check over carefully any questions they have missed and ask about anything which is not clear. It should be explained to students, also, that they should not guess at "true-false" questions which they do not know. For, since there is a 50% chance of guessing such a question correctly, the rules of scoring require that two points be deducted from the possible maximum for each question answered incorrectly, whereas only one point is deducted for each such question left unanswered. It may be mentioned that no examinations were handed back until all students had finished that examination. For while each subject was so thoroughly covered that to study the examination would have been practically to have studied the entire subject, it was not desired that any student rehearse this exact order and manner of presentation prior to the examination itself.

The matter of primary importance in this type of examination is its preparation. This must be done with great and painstaking care to avoid (1) ambiguities, (2) "catch" questions, and (3) the confusing use of negatives. It is desirable also that but a single fact be stated in each "question." Each set of questions used in this examination was made after considerable study and rearrangement by the instructor of that subject and then tried out on several individuals more or less familiar with the subject, and who were subsequently questioned concerning in-

correct answers given. In any case where the meaning of the statement as written had not been plainly evident, or where in any reasonable sense more than one answer could be construed as correct this statement was revised or entirely omitted. The final draft of the questions was then gone over carefully and critically by the Senior Instructor before finally being mimeographed. As a result not a single case arose in the camp where a student who had answered a question incorrectly claimed to have had knowledge of the facts covered but had construed the statement in a different sense, or had failed to understand, etc., as so frequently happens in this type of examination where such pains in preparation of questions are not taken.

Upon the completion of the gunners' examination, the following memorandum was issued by the camp headquarters and a copy furnished to each student:

MEMORANDUM:

The following results in gunners' examination for Red, White, and Blue students (Antiaircraft Course) are announced.

(Note: Blue students are required to pass the second-class, first-class, and one expert examination. White students are required to pass the second-class and first-class examinations. Red students are required to pass the second-class examination.

The passing grade for second-class gunners, 90 for first-class gunner, and 95 for an expert gunner. A grade above 75 in the first-class examination is considered creditable for a Red student, and a grade above 90 in the expert examination is considered creditable for a White or Red student.

Either of two expert gunners' examinations are given as elected by the student; one on the gun, and one on the A. A. range instruments.

A Blue student who has passed more than one expert examination, a White student who has passed any expert examinations, or a Red student who has passed the first-class or an expert examination is entitled to extra credit therefor.

Scores are listed in order of merit within each battery.

* * * * *

BATTERY "B"

Distinguished Scores

<i>Name and Course</i>		<i>2nd Cl.</i>	<i>1st Cl.</i>	<i>1st Ex.</i>	<i>2nd Ex.</i>	<i>Total</i>
1. DeViney, H. P.	(W)	85.2	99.0	96	95	375.2
2. Taylor, F. R.	(B)	80.8	96.0	95	95	367.8

Expert Scores

3. Kauppinan, T. T.	(W)	85.0	100.0	99		285.0
4. Flynn, E. B.	(R)	82.0	99.4	100		281.4
5. Dresser, R. A.	(B)	83.0	96.2	95		274.2
6. Hilia, W. H.	(B)	76.1	96.0	99		271.1
7. Scoville, E. F.	(R)	77.4	93.6	100		271.0

1st Class Scores

8. Fonos, O. A.	(W)	83.7	94.0	177.7
9. Ellard, F. P.	(R)	80.7	92.0	172.7
10. Turley, V. E.	(R)	80.3	92.0	172.3
11. Gleason, W. C.	(R)	78.9	92.7	171.6
12. Syphers, L. S.	(W)	78.7	90.0	168.7
13. Goodspeed, E. L.	(R)	75.0	92.0	167.0

2nd Class Scores

14. Kapines, W. J.	(R)	79.2	85.0	164.2
15. Taris, S. G.	(R)	77.8	78.0	155.8
Etc.—				

Prizes were given for the highest total scores in the examinations, one to the highest Red, one to the highest White, and one to the highest Blue. A prize was also given for the highest score in a very thorough examination on the machine gun, a prize for the best time in field stripping and assembling the machine gun, and individual prizes to each member of the squad winning a set five-event machine-gun squad competition which included, among other events, 1000-inch range and balloon firing.

The results gotten by this means of instruction—largely inspired by the examinations given—were most gratifying. Though the final examination on machine guns referred to was very thorough, no less than twenty-one students tied for high score with marks of 100%. The following run-off examination taken by those twenty-one indicates the degree of intimacy and intricacy of their knowledge of the machine gun. The high score made in this examination was 81%.

RUN-OFF MACHINE-GUN EXAMINATION

After each of the following numbers write the name of the corresponding piece of the machine gun shown on the display board:

(Note: Only small, intricate parts were displayed).

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

11. There are 1-6-16-26-36-buffer discs in the shock absorbing assembly.
12. In assembling the breech lock to the barrel extension the beveled edges of the breech lock are placed to the rear. True—False
13. The breech lock cam is on the bottom plate. True—False
14. The steam tubes are made of bronze-iron-rubber.
15. The extractor cam plunger spring is identical with the ejector spring. True—False
16. The muzzle gland must be removed in order to renew or replace the front barrel packing. True—False
17. Name the spring which causes the barrel to click as it is screwed into the barrel extension: _____
18. Name the spring which forces the extractor to pull the live cartridge from the belt as the bolt moves to the rear: _____
19. The windage scale is graduated in mils. True—False
20. The gun is always aimed above as well as laterally ahead of the present position of the target. True—False
21. The extractor may be removed without taking off the back plate. True—False
22. The firing pin spring is compressed between the firing pin spring pin and the sear spring pin. True—False
23. The gun may be fired without the bolt handle. True—False
24. The barrel plunger stud is located on the lock frame. True—False
25. The inner steam tube slips back and forth to prevent the water from running out of the steam exhaust opening when the gun is elevated and depressed. True—False

The prize for speed in field stripping and assembling the machine gun—to include removing the barrel from the water jacket and tripping the lock frame from the barrel extension, and return to the firing position—was won by a time of thirteen seconds. This will particularly impress officers who have spent several hours practice at the Coast Artillery School to reduce their time for this operation below one minute.

In the squad competition the winning squad broke its four balloons in succession in an average time of somewhat less than two seconds each.

The gun work was equally satisfactory and thorough as shown by the fact that the highest score for the camp in gunners' examinations was made by a Red, who was only required to take the second-class examinations. He and several other Reds in fact qualified as experts in two subjects.

Care was taken to award prizes only for definite achievement, the determination of which was a matter of fact rather than of opinion. Thus no attempt was made to determine "the outstanding" or "the best" student in any category except as indicated above. All prizes given were, for the gun work, empty cartridge cases, polished and suitably engraved, and, for the machine gun work, .30-caliber range dummy cartridges similarly engraved, for example:

FIRST PRIZE

FIELD STRIPPING AND ASSEMBLING THE MACHINE GUN

Time: 13.0 seconds

C. M. T. C. 1926

These trophies are considered much more suitable than the gold filled medals of some stock design commonly awarded.

The instruction and examinations discussed above are dwelt upon at considerable length because this camp had the misfortune common on Coast Artillery posts to be enveloped in a dense fog during the whole of Tuesday, Wednesday, Thursday, and Friday of the last week of its existence when practically all the two-target tracking and firing was scheduled. The dampening effect was other than literal. In fact, nothing could be better calculated to ruin such a camp completely. It was indeed depressing. And it was here that added gunners' instruction and other similar instruction on the machine guns, followed by the tricky examinations which were so like a game, required no writing and very little time, but were nevertheless thorough—most thorough and most scrupulously fair—not only saved the day, but glorified it.

To be sure there had been considerable gun firing at bursts and balloons the week before. Moreover each student had fired all classes of ground fire on the 1000-inch range with the machine guns and had fired upon two or more balloons in aerial fire. Besides there had been night firing with tracers upon balloons illuminated by searchlights. This was most spectacular and had also offered a suitable opportunity to demonstrate the searchlight, in which no scheduled instruction was given. But the target practices at the towed targets were the scheduled crowning achievements of the camp. And as day after day broke under heavy fog and continued threatening with low-hanging clouds that shut in the view completely, even against machine gun fire, the disappointment was most keen. That such a severe anticlimax could be practically ignored in a period of eager competition—a veritable mania which had siezed the students for more and more knowledge of the guns and instruments and the methods of their use—was nothing less than remarkable. Without the use of the examinations referred to it should certainly have been nothing less than impossible. Their more extended use merits the serious consideration of everyone interested in teaching anything.

The opportunity to fire finally arrived on the last Saturday morning of the camp, which broke clear and cloudless—after all antiaircraft work was scheduled to have been completed. It had not been possible to fly or fire since the previous Monday. Drill had accordingly grown quite stale—but not the students. And when the camp headquarters

announced that this morning would be available for firing on account of the previous bad weather, everyone was on edge. On account of competitions in infantry drill scheduled for that day it was necessary to finish all firing by 9:30 o'clock. The plane was accordingly instructed to tow for machine-gun firing from 7:40 to 8:20, and to tow the same target (in order to save time) for gun firing from 8:30 to 9:30. Since all could not fire the machine guns in such short time the squad for each battery which had placed first in the machine gun competition was permitted to man the guns. They fired some 5000 rounds in the short time available. The gun firing was then begun as quickly as possible. It began as smoothly as could be expected and had developed into creditable action with the firing of some seventy rounds when, with such an undisciplined roar of cheers as only school boys could give, the target was shot off the towing cable and went down into the ocean—carrying the unknown but (it was now safe to say) doubtless *very large* number of machine gun hits, and *very few* feet of towing cable down with it. Rain or fog! the antiaircraft work of the C. M. T. C. had been a huge success.

APHORISME I.

Example of the greater validity than precept; therefore a General must principally bee an abolute Soldier, and likewise a good Director; that by his presence and personall performance his Souldiers may strive to imitate, and be encouraged to undergoe any paines, or meete with any danger: for upon his noble performance depends the Successe of the Service; according to the Greek Proverb, That an Armie of Sheep led by a Lyon was better than an Armie of Lyons led by a Sheep.—Ward's Animadversions of War (London, 1639).

The Personnel Outlook as Viewed from the Office of the Chief of Coast Artillery

By MAJOR CLIFFORD JONES, C. A. C.

IN the COAST ARTILLERY JOURNAL of May, 1924, there appeared an article on the above subject and the present presentation is in general nothing more than an effort to bring the information given then up to date, with such added thoughts as may enable each of us to visualize conditions and thus predict each for himself what the future may hold for all important personal "me."

PRESENT DISTRIBUTION OF COAST ARTILLERY OFFICERS

Chart "A", showing the distribution of Coast Artillery officers to duties, is similar to one prepared for the 1926 Annual Report of the Chief of Coast Artillery, the difference being that the last column has been changed from "expected" to "actual" distribution on October 31, 1926.

I fear this chart looks a trifle complicated; in fact, I have been assured by several officers to whom I have submitted it that no one can follow it unless I give it a personal explanation. I am therefore constrained to introduce it with a remark similar to that which appeared in the preamble of a training analysis issued from this office some years ago. If you are sufficiently interested to study it you will be repaid by getting a real picture of the distribution of our officer personnel; while if you only have an opportunity to glance at it, skip it altogether and save time. And now for the explanation. The first column (W. D. allotment), you will note, is made up of three sections.

(a) The branch school quota, consisting of a total number of students and of instructors without specification as to grades. At present this is 80 students, including all those at the Coast Artillery School or any other branch school and at civilian institutions, and 32 instructors, including 2 detailed from other branches.

(b) The duty with branch quota, other than those in the branch school quota. This is compiled from organization tables and is specific as to grades and numbers. It has remained virtually unchanged for the period covered by the chart, except that the field officers for duty with troops in U. S. were increased by 9, effective June 30, 1926.

(c) The detached duty quota. Into this is thrown all those not included in the other two categories. The theory of the single promo-

tion list is that as officers are promoted there will always be a sufficient number in each grade in each branch to fill all the table of organization requirements with officers of suitable rank and that the detached officers list will absorb the remainder.

This should result in first one branch and then another furnishing a larger quota of officers of a specific rank for detached duty, the total number in each grade, however, remaining the same from year to year and being the difference between the total number authorized by law and those required for branch duty in accordance with the tables of organization.

With all the activities that require the major part of the detached officers represented by special pleaders, it is obvious that the pressure is all opposed to a realization of the actual intent of the law. The tendency is to fill the detached duty places with the most suitable officers and permit the troops to have what is left. One of the main functions of the personnel office of each branch is to resist this pressure.

I shall not enumerate in detail the various contentions put forth by these natural enemies of the personnel officer who want what they want when they want it. It is only reasonable, however, for the individuals of the General Staff to assume that those who are to replace them should be especially selected; for the Militia Bureau to feel that the states should have the particular men for whom they ask; for the Military Academy to assert that only the best should be placed in a position to give first impressions to our future officers; for the Corps Area Commanders to want the officers of the regular army who represent us before those influential moulders of public opinion found in our Organized Reserve units and our R. O. T. C. institutions to be truly representative not only of the regular army but of the best in that army; and even for our own Coast Artillery School to urge that the officers who are to instruct Coast Artillerymen should be of the highest type and that the officers who have not had the instruction at the school should be made available even at minor inconvenience to the troops.

The above indicates in a sketchy way some of the things which lend a little spice to what might otherwise be a rather monotonous job.

Our progress towards realizing the ideal objective is indicated on the chart. Considering the distribution of February, 1924, the most striking deviations from the ideal are noted to have been:

(a) The large proportion of captains and first lieutenants on foreign service.

(b) The small number of captains on duty with troops in U. S.

(c) The large proportion of lieutenant colonels and majors on detached duty.

Chart "A"
Coast Artillery
Distribution of Officers to duties

W. D. Allotment		Actual Feb. 28, 1924	Actual Oct. 31, 1924	Actual Oct. 1, 1925	Actual Oct. 31, 1925	
1		2	3	4	5	
Duty with troops, C. A. Board, C. C. A. & T. D.	Detached Duty	Colonels	8	6	5	6
		Lt. Col. & Major	U.S. 169	155	149	133
		Captains	U.S. 64	58	65	62
	Captains & Major	Lieutenants	U.S. 224	224	271	275
		U.S. 21	10	10	19	20
		U.S. 22	15	32	48	(f) 46
		U.S. 23	15	32	48	(h) 48
		U.S. 24	34	37	76	(e) 74
		U.S. 25	87	87	76	(e) 74
		U.S. 26	88	93	96	108
		U.S. 27	151	150	153	151
	Lieutenants	U.S. 28	147	177	164	158
		U.S. 29	141	177	164	158
		U.S. 30	141	177	164	158
		U.S. 31	141	177	164	158
School Quota	Captains	U.S. 32	141	177	164	158
		U.S. 33	141	177	164	158
		U.S. 34	141	177	164	158
		U.S. 35	141	177	164	158
		U.S. 36	141	177	164	158
TOTALS		1014	966	1008	1011	1019

NOTES:-

- (a) Includes civilian colleges and other branch schools.
- (c) Coast Artillery School staff and faculty, including school detachment and two instructors from other branches, is authorized a strength of 32 for fiscal year 1927.

- (e) 13 captains short, places filled by majors.
- (f) 14 lieutenant colonels and majors surplus. 13 of these replace the above shortage of 13 captains and 1 will replace a captain vacancy expected to occur later.
- (h) Increase in War Department allotment 1927.

The policies of the office were at that time shaped to overcome in so far as practicable this disadvantageous distribution.

I shall not detail the various steps taken to put these policies into effect but shall pass directly to the present distribution shown in the last column. There we find only 74 captains out of 276 on foreign service, 57 first lieutenants out of 227 on foreign service, the number of captains on duty with troops in the United States increased from 88 to 108 during a period in which the total number in that grade was reduced from 286 to 276, and the lieutenant colonels and majors on detached duty in the United States reduced from 169 to 133.

The compensating changes through which the above has been accomplished have included:

(a) The assignment of a larger proportion of second lieutenants to foreign service. This does not work an especial hardship on officers of this grade since approximately half of those required receive this as their initial assignment thus saving them one move and coming when they are most free from dependents. Also these officers generally are not available for student duty or detached assignments.

(b) The substitution of a limited number of field officers for captains on foreign service.

(c) The increase of the number of lieutenants on detached duty in the United States.

(d) The reduction of the number of captains taking the Battery Officers' Course at the Coast Artillery School, with an increase of the number of lieutenants taking the course.

Some of these results of the redistribution are undesirable when considered alone but are accepted as a by-product of the general rearrangement considered necessary.

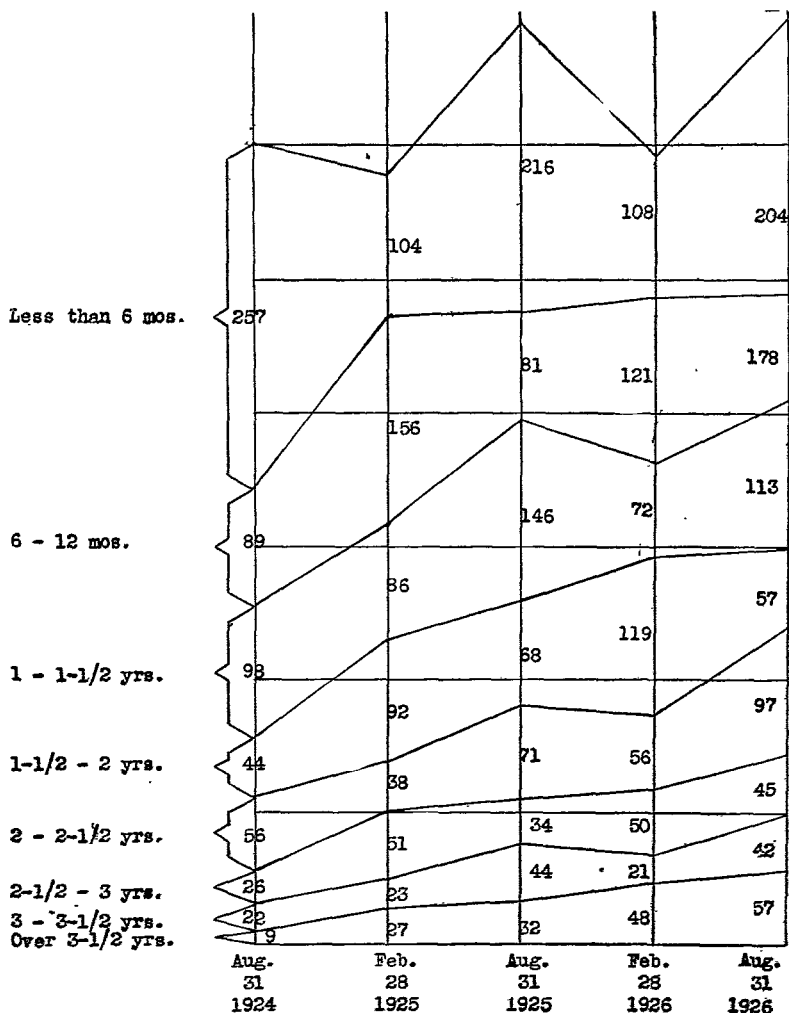
While these are the highlights of the chart, there are many interesting deductions as to the future which may be made by each Coast Artillery officer using his grade and previous service as argument. All of these deductions will, I am sure, be of interest to those who take the trouble to make them and some may prove to be correct.

POLICIES

There have been few changes in personnel policies during the past three years. Those that have been made, however, though not of a radical nature on causal inspection, have been of far reaching effect. The changes are comprised chiefly in *War Department Policies*, published May 19, 1925.

These policies were dictated by the urgent necessity for economy in mileage, but many of them had, in so far as practicable, already been put into effect in the Coast Artillery prior to their general adoption

Chart "AA"
 Number of C.A.C. Officers at stations for the
 lengths of time indicated on selected dates.
 (Students and those on foreign service not
 included)



as a means of promoting continuity of training and as a convenience and economy to the officers themselves. In general they fall under the following headings.

(a) *Length of Tour of Duty Policy*.—This in general provides for a minimum of four years on each duty unless something of a positive nature interferes. The major upsetting influences for us are foreign service and school requirements. Our success in increasing the length of tour on each duty for Coast Artillery officers is indicated on Chart "AA".

(b) *Travel policies*.—Relating chiefly to inspections and limiting them to the minimum consistent with efficiency.

(c) The foreign service policy.—This changed the former rigid policy, where the man at the top of the roster in each grade was ordered in many cases without regard to the duty he might be on or his personal convenience, by substituting a block system. The blocks cover periods of one year foreign service. Each and all within the block are equally available for selection. Ordinarily they are taken from the top, but adjustments within limits may be made without special authority.

The following are the blocks for the various grades together with the approximate dates which according to the present set-up will mark the exhaustion of each.

Colonels

1st Group	3 yr. 6 mo. to 4 yr. 6 mo.	Exhausted about Oct. 1929
2d Group	4 yr. 6 mo. to 5 yr. 6 mo.	Exhausted about Nov. 1932

Lieutenant Colonels

1st Group	2 yr. 6 mo. to 3 yr. 6 mo.	Exhausted about July 1931
2d Group	3 yr. 6 mo. to 4 yr. 6 mo.	Exhausted about 1936

Majors

1st Group	6 mo. to 1 yr. 6 mo.	Exhausted about July 1927
2d Group	1 yr. 6 mo. to 2 yr. 6 mo.	Exhausted about Dec. 1929

Captains

1st Group	6 mo. to 1 yr. 6 mo.	Exhausted about June 1927
2d Group	1 yr. 6 mo. to 2 yr. 6 mo.	Exhausted about Nov. 1927
3d Group	2 yr. 6 mo. to 3 yr. 6 mo.	Exhausted about Sept. 1932

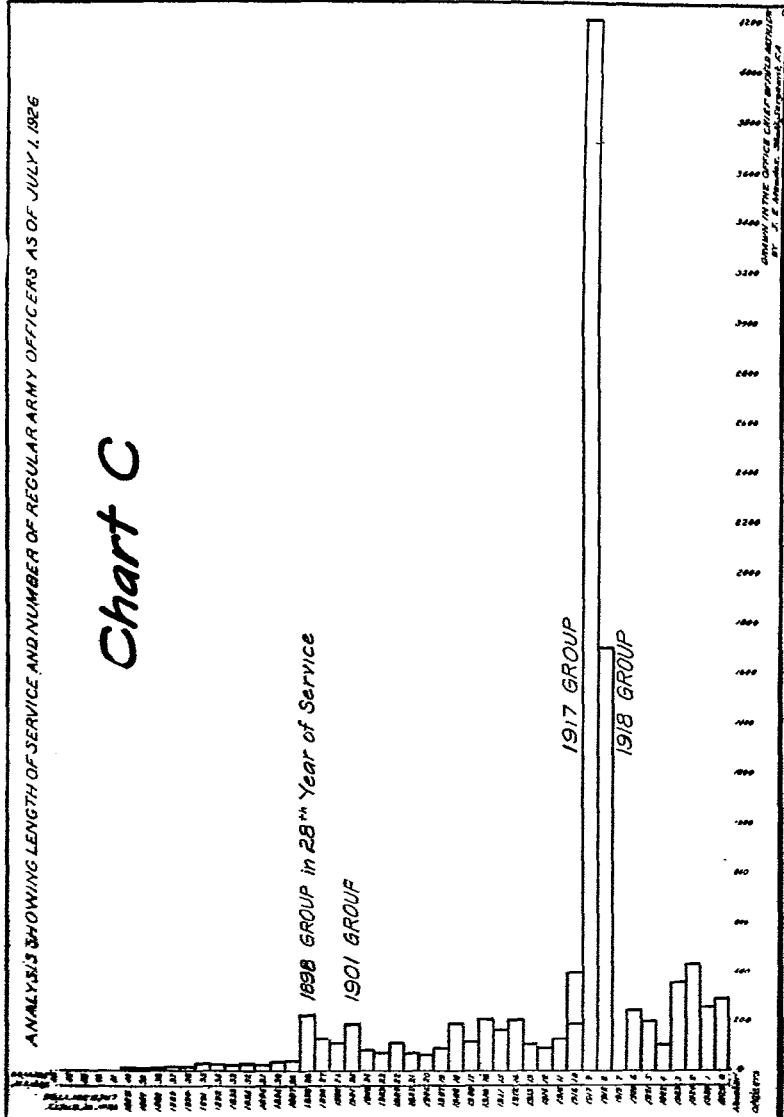
First Lieutenants

1st Group	1 yr. 6 mo. to 2 yr. 6 mo.	Exhausted about June, 1929
2d Group	2 yr. 6 mo. to 3 yr. 6 mo.	Date of exhaustion not determined.

Many first lieutenants from the second group will have to go on foreign service before their turn on account of so many in the first

ANALYSIS SHOWING LENGTH OF SERVICE AND NUMBER OF REGULAR ARMY OFFICERS AS OF JULY 1, 1926

Chart C



group having recently returned from foreign service and not being eligible until three years from date of return.

Officers may be selected from a lower group when none in the upper one is reasonably available, so being in a lower group does not insure immunity even until the date of exhaustion of the group above.

(d) *School policy*.—This limits the number of students for branch schools and civilian institutions to 8 per cent of the actual commissioned strength of each branch. The adjustment between the number to be included in the Battery Officers' Class and the Advanced Class is left largely in the hands of the chiefs of branches. The number of students from each branch is also indicated for the general service schools but the actual numbers allocated together with the qualifications of those to be selected are prescribed from year to year by the War Department. The most significant change in the qualifications is the elimination of the annually decreasing age limit for the students entering the Command and General Staff School and the more liberal provisions for the inclusion among these of senior or especially selected captains.

(e) *Duty with troops*.—The category of duties now considered to be duty with troops has been extended to include duty with R. O. T. C. units and as a tactical officer at the Military Academy, in addition to the major classes previously so considered; i. e., students at service schools, instructors with the National Guard, and those with the Organized Reserves.

EFFICIENCY REPORTS

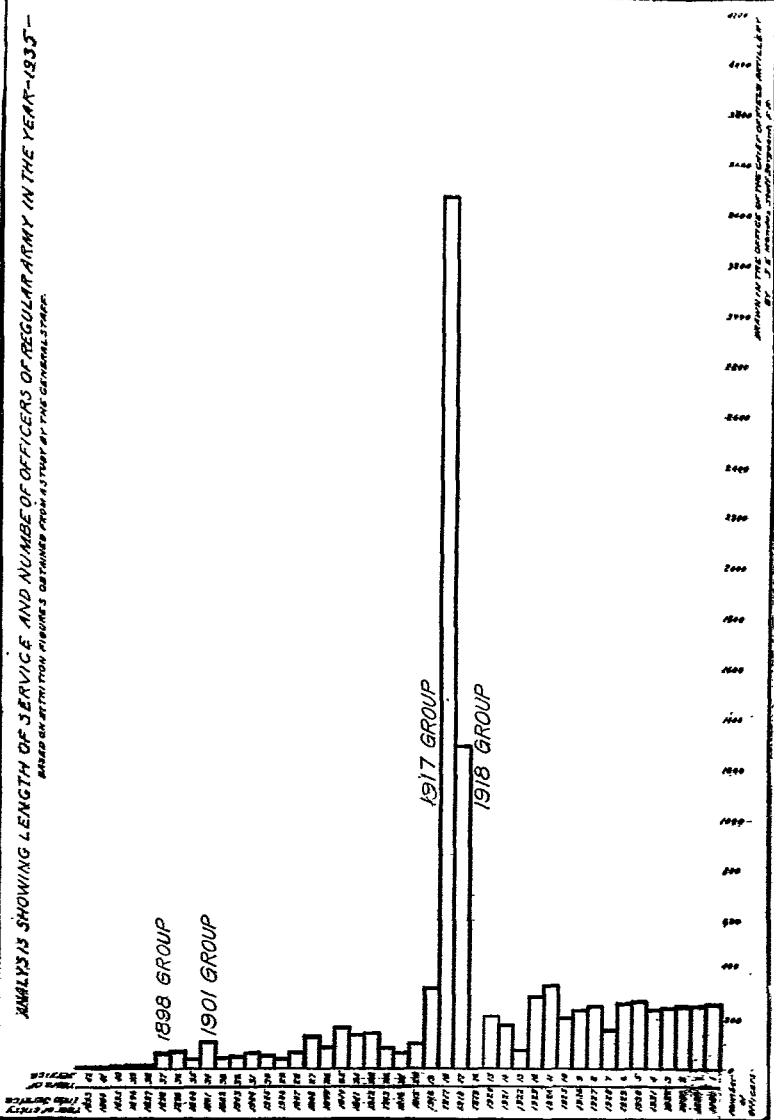
The preparation of these valuable aids in determining the proper assignments for officers is so thoroughly covered in Army Regulations and in instructions on the forms themselves that it appears that no one could go wrong in preparing them. However, those reports are of such importance both to the individuals on whom they are rendered and to the general welfare of the service that I venture to give a few impressions gathered from an examination of about ten thousand of them.

To start with, the number ten thousand may seem an exaggeration, considering that there are only about one thousand officers in the Coast Artillery. This, however, is a conservative number, for in the something over three years these papers have passed through my hands they have averaged about three per year per officer, covering periods of from three days to twelve months.

It is to the less-than-one-month reports that I wish to call attention first. A. R. 605-185 states quite clearly the conditions under which a report may be made for a period of one month or less, i. e., *when the service appears to have been unusual either through merit or lack thereof*. Nevertheless there are received annually a large number of these color-

ANALYSIS SHOWING LENGTH OF SERVICE AND NUMBER OF OFFICERS OF REGULAR ARMY IN THE YEAR-1935-

BASED ON DATA FROM FIGURES OBTAINED FROM ADJUSTED BY THE GENERAL STAFF.



less short period reports, frequently made out in detail; that is, each space is filled in indicating "average" with perhaps a remark that the reporting officer is not sufficiently acquainted with the officer reported on to give any other rating.

Damned by faint praise would seem to cover these cases, for entries on efficiency reports are supposed to be positive and the tendency of those considering them is so to evaluate them even though the short time covered by the report or a remark inserted on the second page may indicate that the ratings given are not based on knowledge but rather on a lack of information on which to formulate a correct estimate.

In order to be certain that material periods have not been overlooked several commands have adopted the plan of requiring a statement to be submitted by commanding officers on each officer present for a period of one month or less informing superiors to this effect and reporting that no efficiency report would be rendered for this period. In other cases letter reports to the same effect are made, thus preventing officers' records being burdened with a large number of meaningless and perhaps misleading reports.

The same remarks apply with almost the same force to the abbreviated reports.

The entries required for these reports are all plain statements of fact except one, i. e., manner of performance of duty. The other headings should be left blank unless the officer has come sufficiently under observation to warrant a positive opinion.

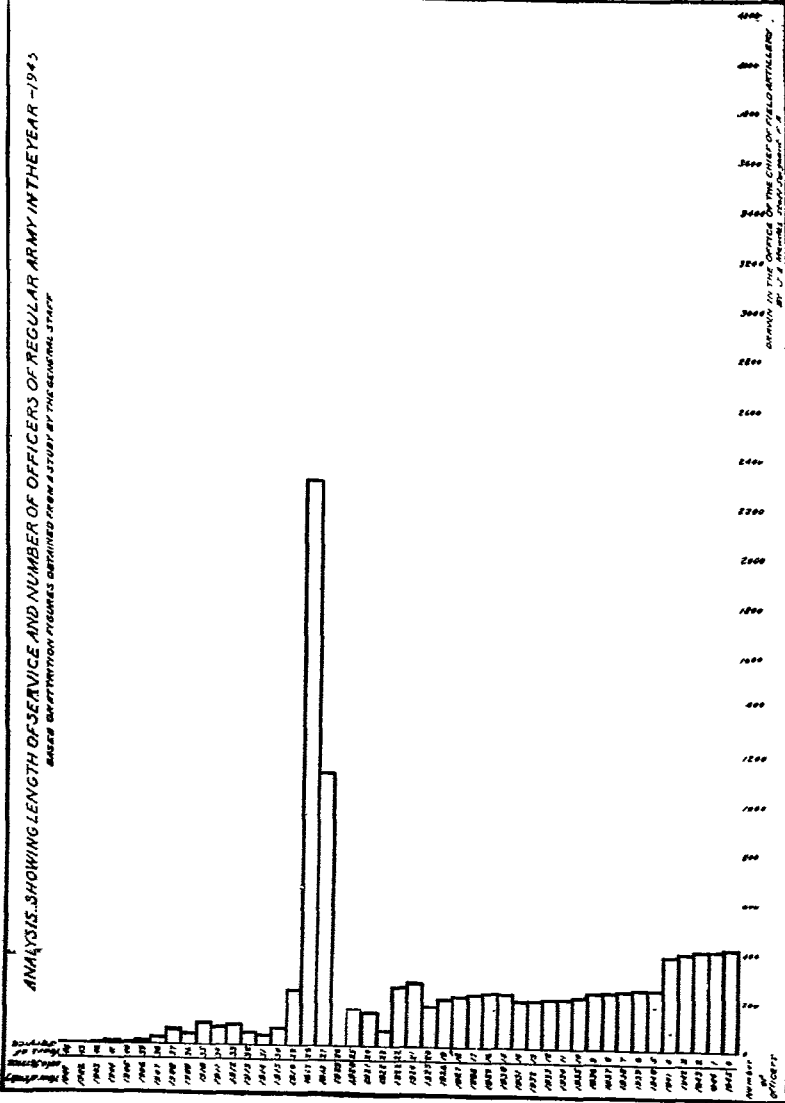
You perhaps have gathered from the above the importance attached to getting accurate expressions of opinion in these reports. It is just as important to have a below average estimate recorded correctly as an above average one. One of the great stumbling blocks in the way of this has been the general misunderstanding of the purport of paragraph "R" of the report. The misinterpretation of this part of the report was so general that on October 30, 1923, the War Department issued a letter of instructions (A.G. 201.61, 10-24-23) covering the matter. I cannot do better than quote some extracts from this letter for the benefit of those to whose attention it has not heretofore been brought.

Subject: Misinterpretation of paragraphs 8 and 9 instructions, Form 711,
A. G. O.
To: Corps Area and Department Commanders, Commanding General,
District of Washington, and Chiefs of Branches.

Paragraph R was incorporated in the efficiency report to impress upon reporting officers the fact that there is imposed upon them the important duty of assisting their subordinates by instruction, example, etc., to overcome their deficiencies and render satisfactory and efficient service. In general, this is best accomplished by bringing the officer's deficiencies to his

ANALYSIS SHOWING LENGTH OF SERVICE AND NUMBER OF OFFICERS OF REGULAR ARMY IN THE YEAR -1943

BASED ON PARTITION FIGURES OBTAINED FROM A JURY BY THE GENERAL STAFF



attention at the time they are observed and by instruction, advice, or other means, assist him if possible in overcoming them.

* * * * *

That part of paragraph 8 of the instructions which states "A rating of *Below Average* is considered an unfavorable entry within the meaning of paragraph R," is not to be interpreted as requiring the reporting officer to inform the officer reported upon that he has made an unfavorable entry of opinion upon his efficiency report, but that such deficiencies should have been brought to the attention of the officer concerned, *prior* to the rendition of the report and *preferably at the time noted*.

Paragraph 9 of the instructions *requires* reporting officers to furnish the officer reported upon, a copy of all unfavorable entries of *fact*. If the reporting officer so desires he *may* inform the officer reported upon of unfavorable entries of *opinion* by copies or otherwise. However, he is not required to do so and his military superiors are not authorized to direct him to do so, nor are his military superiors authorized to furnish to any officer reported upon, copies of unfavorable entries of opinion made on his efficiency report by his immediate military superiors. The War Department desires that reporting officers give their frank and honest opinion as to the qualifications of, and the character of service rendered by their subordinates and that such reports be regarded as confidential.

* * * * *

Entries under paragraphs F, G, H, K, N, and P of the efficiency report are all matters of opinion. Entries under paragraphs I and Q may be facts or opinions. Entries under paragraphs L, M, and O are facts. Entries in paragraph E and paragraph R are partly facts and partly opinions.

* * * * *

By order of the Secretary of War:

ROBERT C. DAVIS,
The Adjutant General.

PROSPECTIVE PROMOTION

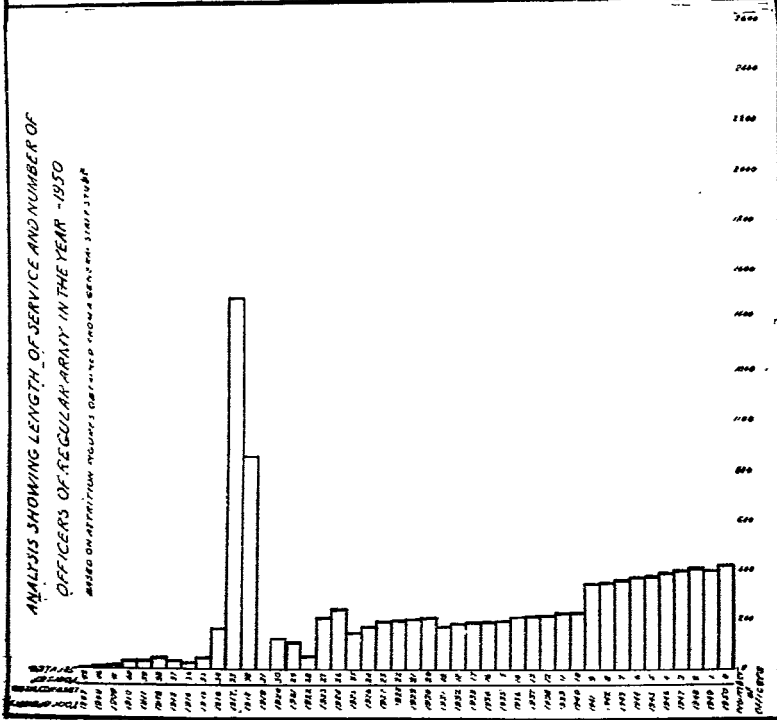
Having discussed things with which we are familiar and which therefore may come to be considered a bit prosaic I cannot refrain from touching upon a subject that has the greatest fascination for each of us. Next to where we are to live comes the question of what rank we shall have by that time.

The ouija board has nothing on the accompanying Chart "B" when it comes to predicting the future. The child of four destined to become a second lieutenant July 1, 1945, can trace his promotion to first lieutenant in 1948, to captain in 1955, and to his majority in 1965.

For those now in the service it is only necessary to drop down the scale on the left to the promotion list number as of July, 1926, and follow the nearest diagonal reference line upward to the right until it crosses the various grade lines, check off the dates, and forget promotion until the year indicated. If nothing happens about then to justify your faith look around for extenuating circumstances, such as a war of some magnitude, or a change in the present law governing

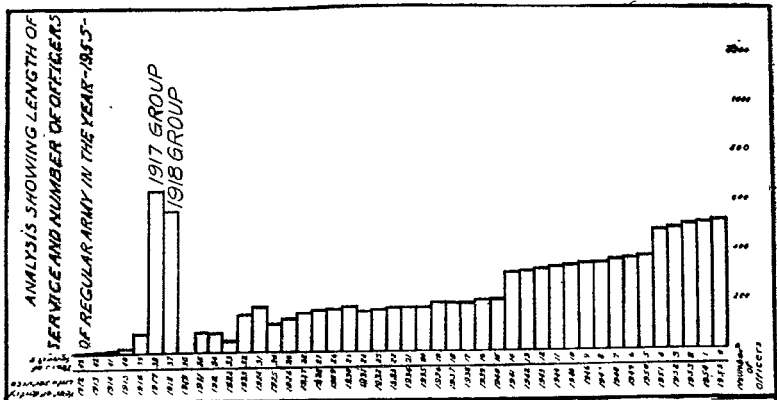
ANALYSIS SHOWING LENGTH OF SERVICE AND NUMBER OF OFFICERS OF REGULAR ARMY IN THE YEAR -1950

BASED ON ATTRITION NUMBERS OBTAINED FROM A GENERAL STAFF STUDY



ANALYSIS SHOWING LENGTH OF SERVICE AND NUMBER OF OFFICERS OF REGULAR ARMY IN THE YEAR -1955-

1917 GROUP
1918 GROUP



retirement, or a forced decrease or increase of officer personnel; since the chart is built up not entirely on theory but upon an attrition rate determined *after* excluding from consideration those who have been separated from the service due to the causes indicated above. The data from which the attrition rate were derived covered almost fifty years of the Army's history, and involve a consideration of the service of 6379 individuals with an aggregate of 92,838 service years.

It is therefore not to be lightly considered and in fact is the basis of a large part of the deductions contained in the personnel study prepared by the War Department for submission to the present Congress. Many interesting phases of this vital subject may become apparent from a study of the chart. I have selected one study which appeals to me as most striking. This is given on Chart "C," which, as shown, is a reduction of several large sheets and has to do with the promotion humps. I hope the salient points may be evident even in the reduction.

Those who entered the service between 1901 and 1917 will recall how large the humps of 1898 and 1901 loomed as blocks to future promotion. Anticipating that the small figures on the left of the charts may not be legible I have indicated these blocks for comparison with the 1917 and 1918 blocks as they exist now and as they will exist in future years unless some radical steps are taken to remedy this unfortunate distribution.

I feel that the future must bring some change, for otherwise twenty-nine years hence we will find all of our field officers down to about one fourth of the list of majors to be from those who saw service in the World War; that is, they will average over 60 years of age and the remaining field officers will average considerably over 46.

This is not a pleasant prospect; it is one of the large problems facing the War Department and it is small wonder that with matters such as this before it the powers that be hesitate to recommend changes to satisfy comparatively small groups, especially when the changes recommended cannot be made without compromising the rights of others either now or in the future.

As I glance back over this mass of dates, figures, facts, and fancies, I am surprised at the extent to which what was intended to be a few words on present conditions has grown.

I cannot seem to find a convenient place to apply the shears, however, so am leaving it "as is" for each of you to consider according to your several dispositions—some to analyze and accept a few of the inferences drawn, others to regard in the spirit of "interesting if true," but all, I hope, with a feeling that the Army has in the past generally fared pretty well at the hands of the country and after all that there is no better forecast than this of what the future may hold for us.

Coast Artillery Memorandum No. 7

By MAJOR CLAIR W. BAIRD, C. A. C.

WITH a view to amending T. R. 435-55, *Analysis of Drill and Analysis and Reports of Target Practice*, and to combining this training regulation with the regulations pertaining to mines and sub-mines, antiaircraft guns, antiaircraft machine guns, and antiaircraft searchlights, the Office of the Chief of Coast Artillery has drawn up Coast Artillery Memorandum No. 7 which will be issued in printed form in the immediate future. The instructions contained in this memorandum will pertain to all Coast Artillery target practice during 1927. At the close of the target practice season local commanders will be required to submit pertinent comments as to the suitability of the 1927 methods as compared to those in effect for 1926.

Some of the radical changes contained in Coast Artillery Memorandum No. 7 are as follows.

Antiaircraft Guns.—One of the principal changes from Coast Artillery Memorandum No. 6 is that antiaircraft gun batteries are to be rated according to a score which is based on the hits per gun per minute as a function of the slant range.

The time for a practice has been changed, inasmuch as each course will begin to run from the command "Commence Firing," at which time the breech will be open and the projectile will be in the fuze setter. The method heretofore generally pursued by antiaircraft battery commanders, *i. e.*, computing the time from the first discharge, did not give a true picture of results as it reduced the time of the practice and was decidedly to the advantage of the battery commander who fired on many short courses.

The number of papers comprising each target practice report have been materially reduced, the only ones forwarded to higher authority being a Summary of Practice (2 sheets), a plot of hits on the hypothetical target, and a B. C. Narrative Report. The latter is rendered only in exceptional cases.

Antiaircraft Machine Guns.—Machine gun batteries will be rated on a score similar to that prescribed for antiaircraft gun batteries. In the future this score may take into consideration the altitude as well as the slant range, but at present sufficient data are not on hand to warrant including an altitude factor, although all machine gun courses received to date have been carefully studied with this in view.

Searchlight Batteries.—In the past these batteries have not been rated along with firing batteries. This will be done in 1927, the score being a function of the time of illumination and of the time between “in action” and illumination. An added feature in regard to batteries of this type is that each battery record practice will consist of the record practices of its separate platoons.

Seacoast Guns.—A graphical analysis will be submitted to higher authority in lieu of the tabular one heretofore used. Undoubtedly, drills and practices must be analyzed, but it is believed that the graphical analysis prescribed will give all data needed by higher authority and, as but two copies need be made, the great amount of labor involved in preparing the numerous copies of the analysis sheets heretofore used will be reduced and the errors inherent in the many additions and subtractions necessary will be avoided. The analysis forms heretofore prescribed may be used as work sheets.

For uniformity, hypothetical targets for the different calibers, with dimensions, are prescribed. All classes of armament are allowed the hull, including the deck, as hitting space. The method of determining hits on the hypothetical target is prescribed.

The time of a practice will begin to run at the command “Commence Firing” for the record shots. Heretofore there has been no uniformity in this, many battery commanders, naturally, taking the time from the moment the first piece was fired.

A score by which seacoast batteries will be rated has been included. The magnitude of the score depends upon hits, rate of fire, calibration, adjustment, and the lack of penalties for errors. The hitting component varies for a particular caliber directly with the hits per gun per minute and inversely with the probability of hitting. In order that poor-shooting batteries may be on an equal footing with good-shooting ones, the probability factor will be determined from the danger space and the probable armament error as developed during the practice.

Reduction in the number of papers comprising each report of practice rendered to higher authority is one of the main features of Coast Artillery Memorandum No. 7. The only papers forwarded to the Adjutant General and to the Coast Artillery District being—

Summary of Practice (2 sheets),
Graphical Analysis (Range),
Graphical Analysis (Deflection), if required,
Plot of Shots with respect to the hypothetical target,
B. C. Narrative Report, if rendered.

The graphical analysis (deflection) and the B. C. Narrative Report are required only in exceptional cases, so the normal number of papers

to be rendered is but three. Of the set which goes to the Coast Artillery District, the Summary of Practice only is retained, the other papers being returned to the battery for file with the emplacement book records. Sheet 2 of the Summary of Practice contains data pertinent to the materiel of the battery, it being simply necessary to make an additional carbon copy for transmission to the Chief of Ordnance.

Wherever practicable seacoast batteries will fire at least two guns or two pits of mortars in two or more zones.

A feature that will meet with the approval of most Coast Artillerymen is a return to the method of ramming seacoast projectiles where, instead of the shot truck being brought gently to the breech and the projectile then rammed, the movement of the truck and the ramming may be continuous. This method will increase materially the rate of fire.

Coast Artillery District Commanders are authorized, provided the proper safety precautions are taken, to direct that not more than one target practice of any fixed mortar battery within their command may be held with less than 30 seconds relay time and with the elimination of the use of the predicted point of the target by the battery commander during the fire for effect phase. This method is described in Coast Artillery Board Proceedings No. 117, the text of which will be included in an early number of the COAST ARTILLERY JOURNAL under the title "Fire Control for Mortars.

General.—The procedure in training will be drill, subcaliber practice, a preliminary target practice, and one or more record practices. Preliminary practices will be reported but batteries will not be rated thereon.

Officers' adjustment problems will not be reported except as to matter pertaining to the Ordnance Department. This will be reported on Sheet No. 2 of the Summary of Practice.

Practices under gas will be limited to subcaliber and to special field tests for which ammunition has been authorized by the War Department.

All batteries in 1927 will be rated as excellent, very good, good, fair, or poor. Classifications will be made by the Coast Artillery District Commanders and by the Chief of Coast Artillery, the latter's rating being published in a bulletin issued by the War Department. Only those organizations designated in this bulletin as "excellent" will be entitled to wear the prescribed badge.

Field Exercises for Antiaircraft Artillery

INTRODUCTION

DURING the summer of 1926 the 62d Coast Artillery (AA) proceeded from Fort Totten, New York, to Camp Upton, Long Island, where the regiment participated in a series of field exercises covering a period of five weeks. These exercises were held for the purpose of testing a tentative draft of Training Regulations 435-30, *Tactical Employment of Antiaircraft Artillery*, with a view to possible revision before approval by the War Department and issues to the service. In addition, the exercises afforded an excellent opportunity for tactical training and for practical experience in the functioning and procedure of organization headquarters, staffs, details, and fire units in reconnaissance, issuance of orders, installation of communications, and occupation of positions.

The publication of these exercises has been authorized so that officers who are concerned with the training of antiaircraft artillery organizations of the Regular Army, National Guard, and Organized Reserves may be provided with examples of field exercises that have been successfully used for training purposes and for tactical inspections.

The field exercises consisted of fourteen assumed tactical situations involving the employment of a regiment of antiaircraft artillery as an organic part of a corps or as a regiment of antiaircraft artillery brigade of an army. Each exercise is based on a separate tactical situation or on a distinct phase of a continuing operation by the corps or army, and covers the operations for one day or for a part of a day.

In each exercise involving a separate tactical situation and in the first exercise of a continuous series, the initial dispositions of the 62d Coast Artillery (AA) and of the elements it is assumed to be covering are stated in the situation. For units other than antiaircraft, it was assumed, in exercises following the first of a series, that the plans and orders given in the situation of the preceding exercise have been carried out; and these, as executed, constituted the initial situation for such units in the current exercise. For the 62d Coast Artillery (AA) the solution of the preceding exercise constituted the initial situation of the regiment for the current exercise.

The situations contain the necessary information concerning the locations and movements of elements other than antiaircraft artillery and the decisions and orders of the army or corps commander which affect the antiaircraft artillery, and except such orders as might issue

at the request of the regimental commander for the purpose of coordination. When orders of this character were required, the umpire made the necessary assumptions.

Prior to each exercise the umpire gave the regimental commander such information as to the character of the exercise and the time of issue as would enable him to issue to the regiment a preliminary memorandum covering—

a. Movements of units from camp to their initial positions or locations for the exercise.

b. In exercises following the first of a series, the assumed data of completion of the previous exercise which would make the current exercise a continuing operation.

c. In some exercises, a table showing hours of actual time and the corresponding assumed exercise time.*

The 62d Coast Artillery (AA) was assumed to be a complete anti-aircraft regiment. The following units were actually present, although at reduced strength:

Regimental Headquarters and Headquarters Battery.

Service Battery.

1st Battalion (Gun):

Headquarters and Combat Train.

Battery A (Searchlights), less one platoon.

Battery B.

Battery C.

2d Battalion (Machine Gun):

Headquarters and Combat Train.

Battery E (less one platoon).

Battery F (less one platoon).

For the purpose of the exercises, the following elements of a war strength regiment were assumed to be present:

3d Platoon, Battery A.

Battery D.

3d Platoon, Battery E.

3d Platoon, Battery F.

Battery G.

Battery H.

In the reconnaissance made by an organization or a member of his staff and in orders issued to subordinate units, the assumed elements were considered to be present. If an organization commander desired a report from an assumed element on a point which he considered essential to his plans and for which he would have called upon the assumed

*In some exercises requiring a considerable period of inactivity or inconvenient hours, involving study of the situation, preparation of orders, and reconnaissance, preliminary situations were issued at assumed times. Such situations have this note following the heading:

"To be issued as of—o'clock,—(Date)."

organization had it been actually present, he was authorized to call upon an umpire, who supplied the necessary information. Occasions on which such reports might be required are:

a. When a reconnaissance by the commander of the assumed unit is required before orders are issued by the next higher commander.

b. When a mission previously given to the assumed unit was of such a character that a report of the location of the unit is required in order to make further plans for it or for adjacent units.

c. When an assumed unit has been detached from its organization and the situation as issued does not state its location in sufficient detail.

No attempt was made to simulate the giving or delivering of orders to assumed organizations. When orders applicable to the whole command were issued, the copy retained by the organization commander was considered as evidence of delivery to the assumed unit. In case an order applicable to the assumed unit only was issued, a record of it was made in the retained file of the issuing organization.

Communications (telephone and messenger) were established with actual organizations only. No attempt was made to establish or simulate communications with assumed organizations.

The dates given in the situations following are those of the assumed tactical situations. In the situations prepared for the regiment the dates were left blank and were filled in by the umpires to correspond with the actual date of the conduct of the exercise.

After the situations were issued, the regimental commander was in complete control of the exercise, the umpires acting as observers.

Following each exercise, a critique was held in which the regimental and battalion commanders discussed their solutions and commented on the handling of their subordinate units.

The first exercise was the march from Fort Totten to Camp Upton and did not involve a tactical situation. Field exercises Nos. 2 to 6 inclusive, which appear in this issue of the COAST ARTILLERY JOURNAL, covered a continuous operation extending over a period of six days, maneuver time. Field Exercises Nos. 7 to 14, inclusive, will appear in early numbers of the JOURNAL.

FIELD EXERCISE No. 1

1. GENERAL SITUATION.—*a.* Maps: Geological Survey, New York, 1:500,000. Corps of Engineers, U. S. Army, Tactical Map, 1:62,500; Harlem, Brooklyn, Oyster Bay, Hampstead, Northport, Babylon, Setauket, Fire Island, and Moriches quadrangles.

b. Political relations between the United States (Blue) and a coalition of European powers (Red) have been strained for some time. Red has delivered to Blue an ultimatum with which Blue is not ex-

pected to comply. Both sides have commenced mobilization of their forces in anticipation of the opening of hostilities by Red.

2. SPECIAL SITUATION (BLUE).—*a.* The 1st Division and certain other troops to be assigned to the Second Defense Sector are being assembled at Camp Upton, Long Island, for the purpose of completing their mobilization, equipment, and preliminary training prior to their tactical assignment according to the defense plan which is to be put into effect.

b. The 62d Coast Artillery (AA), at peace strength, is at its permanent station at Fort Totten. It will be assigned to the Second Defense Sector.

c. On 19 July, 1926, the Commanding Officer, 62d Coast Artillery (AA), received the following order from Headquarters, Second Corps Area:

Second Corps Area,
GOVERNOR'S ISLAND, N. Y.
18 July, 1926, 5:00 PM.

Subject: Movement to concentration area.

To: The Commanding Officer, 62d Coast Artillery (AA), Fort Totten, N. Y.

1. The 62d Coast Artillery will march to CAMP UPTON, LONG ISLAND, on 26 July, 1926, where it will be brought to war strength in personnel and equipment.

2. Traffic regulations of the civil authorities will be complied with and every effort will be made to avoid interference with normal traffic.

3. For training purposes, columns will be required to maintain normal road intervals and will proceed at an average speed of 8 miles per hour including short halts.

4. Arrangements for quartering and supply will be made with G-4, Second Corps Area.

By order of Major General A:

M,
Chief of Staff.

3. REQUIREMENT.—The movement of the 62d Coast Artillery (AA) from Fort Totten to Camp Upton.

FIELD EXERCISES No. 2

SECTION		Paragraphs
I.	Advance Sheet	1-2
II.	Special Situation (Blue), continued	3-4
III.	Special Situation (Blue), continued	5-6

SECTION I

Advance Sheet

(To be issued to all officers of the regiment)

1. GENERAL SITUATION.—*a.* Maps: Geological Survey, New York, 1:500,000. Corps of Engineers, U. S. Army, Tactical Map, 1:62,500; Riverhead, Moriches, Setauket, and Fire Island quadrangles.

b. War has existed for three months between the United States (Blue) and a combination of European powers (Red). The Red fleet has secured and held command of the North Atlantic since 19 July, 1926.

c. The Reds have seized Nantucket Island, Martha's Vineyard, and Block Island, and have reduced the fortifications at the eastern entrance of Long Island Sound.

d. The Blues hold Long Island and New England. They have established a submarine mine barrier in Long Island Sound north of Old Field Point.

2. SPECIAL SITUATION (BLUE).—*a.* Reports indicate the arrival of a number of transports, and considerable enemy activity on Nantucket Island, Martha's Vineyard, and Block Island, but the activity of the Red air force has prevented close reconnaissance of these islands.

b. In expectation of a hostile landing in force on Long Island, the 1st Division, with certain attached troops, has been disposed to resist a hostile landing on the north shore east of Old Field Point. It is holding the shore line from Roanoke Landing to Woodhull Landing, both inclusive, with brigades abreast, 1st Brigade on the right. Boundary between brigades: Grass Pond—Long Pond—Wading River (stream), all to 2d Brigade. Mobile reserves and a detachment of cavalry are available to oppose forces landing east of Roanoke Landing or Shinnecock Canal.

c. The remainder of the I Corps, consisting of the 2d and 3d Divisions and the usual corps troops, is marching east on Long Island to oppose a possible hostile landing. By evening of 28 July it is in bivouac as follows:

(1) 2d Division in the area: Smithtown Branch—Hauppauge—crossroads 54—crossroads 70—crossroads 128 (all inclusive).

(2) 3d Division in the area: Ronkonkoma (inclusive)—Central Islip (exclusive)—road junction 41—Bohemia (both inclusive).

(3) Corps troops and trains in the area: Central Islip—road junction 56—Brentwood—State Hospital (all inclusive).

(4) The 62d Coast Artillery (AA), less Batteries E, G, and H, is in position covering elements near Brentwood and Central Islip. Battery H is attached to the 1st Division. Battery E is attached to the 2d Division and is in position covering elements in the northwest part of the bivouac area. Battery G is attached to the 3d Division and is in position covering elements in the western part of the bivouac area.

SECTION II

Special Situation (Blue), continued

(To be issued to the Commanding Officer, 62d Coast Artillery, as of 6:00 PM, 28 July)

3. SPECIAL SITUATION (BLUE), continued.—*a.* The corps troops and trains are in bivouac as follows:

PROPERTY OF U. S.

- (1) 101st Field Artillery Brigade: north and south of Central Islip.
 - (2) Corps Engineer Service and Corps Medical Service: in the vicinity of State Hospital.
 - (3) Corps Train: Brentwood, north of Long Island Railroad.
 - (4) Corps Special Troops: Brentwood, south of Long Island Railroad.
 - (5) Corps and Division Air Services: Operating from Mitchel Field.
 - (6) Corps Command Post: Brentwood.
- b. The 62d Coast Artillery (Antiaircraft), less Batteries E, G, and H, is disposed as follows:

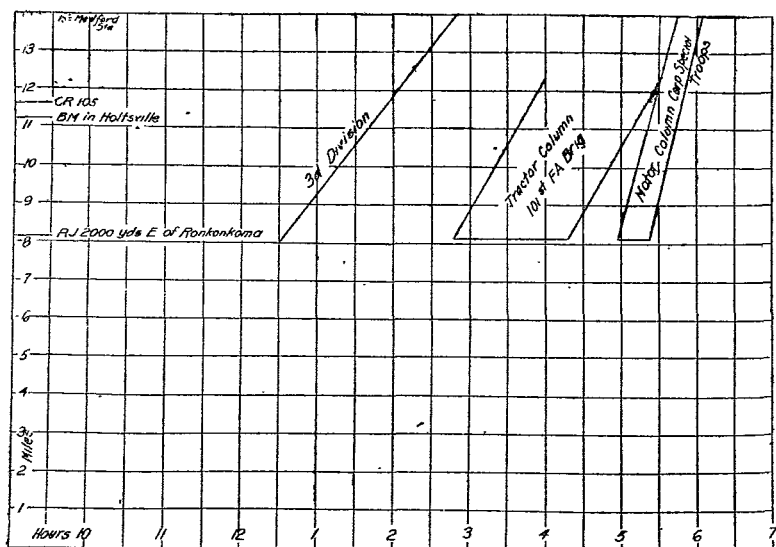


FIG. 1

(1) The 2d Battalion (less Batteries E, G, and H) is in position covering elements in the vicinity of Brentwood.

(2) The 1st Battalion is in position covering the bivouac area of the corps as follows:

Battery B, near road junction 600 yards southwest of "H" in "Hauppauge."

Battery C, near point (984.0-2034.5).

Battery D, about 500 yards northwest of road junction 89 (between Brentwood and Central Islip).

A platoon of Battery A is supporting each gun battery.

The remainder of the battalion is at Central Islip.

(3) Command Posts:

62d Coast Artillery: near corps command post at Brentwood.

1st Battalion: Central Islip.

2d Battalion: Brentwood.

c. At 6:00 PM, 28 July, the Commanding Officer, 62d Coast Artillery (AA), was present at a conference of division commanders and the corps staff at the corps command post. At this conference the corps commander announced the following plan for the advance of the corps on the next day :

(1) The corps will advance tomorrow to the line: Brookhaven-Yaphank-Middle Island (all exclusive).

Boundary between divisions: Center Islip-Ronkonkoma-Holtsville-Medford Station-Yaphank Station, all to the 3d Division.

(2) The Central Islip-Holtsville road and the Motor Parkway-Lake Ronkonkoma-Medford Station road will be cleared west of the line: Ronkonkoma-Lake Ronkonkoma by 12:00 noon. Divisions will be east of the line: East Patchogue-Medford Station-Coram by 5:00 PM.

(3) Corps troops, following the 2d and 3d Divisions, will advance to the area: Medford Station-road junction 169-crossroads 159-Holtsville-crossroads 52.

(4) The corps command post will open at Medford Station at 6:00 PM and close at Brentwood at the same hour.

(5) The field order for the advance will be issued at 10:00 PM, today.

d. At 7:00 PM, Corps G-3 informed the Commanding Officer, 62d Coast Artillery (AA), of the plan for the movement of corps troops, which is as follows:

(1) Foot troops and animal elements of the Corps Engineer Service, Corps Medical Service, and Special Troops to march by the Central Islip-Ronkonkoma-Holbrook road, thence by roads south of railroad to the area south and east of Holtsville. Length of column: 5.8 miles. Rate of march: 2.5 miles per hour.

(2) The tractor column, 101st Field Artillery Brigade, to follow the foot troops and animal elements as far as the road junction 2000 yards east of Ronkonkoma, thence by the road 200 yards north of the railroad to bivouac area north and south of Medford Station. Length of column: 5.3 miles. Rate of march: 3.5 miles per hour.

(3) Motor columns, Engineer Service and Medical Service, following the tractor column, to the area south and east of Holtsville by same road as foot troops and animal elements. Length of column: 4.4 miles. Rate of march: 8 miles per hour.

(4) Motor columns, Corps Special Troops, following Engineer and Medical columns, to proceed to Medford Station by same route as

tractor column. Length of column: 3.9 miles. Rate of march: 8 miles per hour.

(5) Motor columns, Corps Train, following the 2d Division on the Motor Parkway—Lake Ronkonkoma—crossroads 159 road, to bivouac in the area between crossroads 159 and Holtsville. Length of column: 16.4 miles. Rate of march: 8 miles per hour.

(6) Motor columns, 101st Field Artillery Brigade, following the Corps Train, to proceed to bivouac area north and south of Medford Station. Length of column: 28.5 miles. Rate of march: 8 miles per hour.

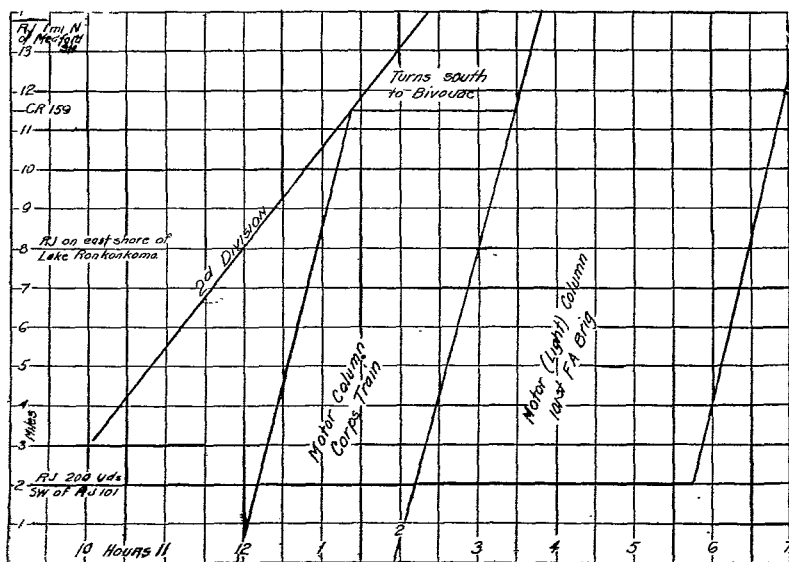


FIG. 2

e. This plan will cause the Brentwood area to be cleared by the bulk of elements now in it by 2:00 PM, and the Central Islip area to be cleared by 5:30 PM. All elements will be in their new bivouac areas by 7:00 PM.

f. G-3 showed the Commanding Officer, 62d Coast Artillery (AA), the tentative march graphs for the above movements exclusive of movements of antiaircraft units and requested him to prepare the antiaircraft subparagraph of the corps field order and data covering the movements of antiaircraft units to be included in the march table.

4. REQUIREMENT.—a. A memorandum of the information and recommendations called for by G-3.

b. The orders issued by all organization commanders of the 62d Coast Artillery (AA) prior to the advance on 29 July.

SECTION III

Special Situation (Blue), continued

(To be issued to the Commanding Officer, Battery E, 62d Coast Artillery, as of 9:00 PM, 28 July)

5. SPECIAL SITUATION (BLUE), continued.—*a.* Battery E, 62d Coast Artillery (AA), is attached to the 2d Antiaircraft Machine Gun Battalion and is in position covering the Service Trains of the 2d Division as follows:

- (1) 1st Platoon: eastern edge of Smithtown Branch.
- (2) 2d Platoon: near crossroads 83.
- (3) 3d Platoon: 500 yards northeast of crossroads in Hauppauge.
- (4) Command post: near crossroads 83.

b. At a conference held at the division command post in Hauppauge at 9:00 PM, 28 July, the division G-3 gave the commanding officer, Battery E, the following instructions:

(1) The I Corps continues to advance tomorrow. The 2d Division advances to the line: Yaphank—Middle Island (both exclusive) by the Lake Ronkonkoma—crossroads 159—crossroads 123 road and the Smithtown Branch—New Village—Coram road.

(2) Foot troops and animal elements of the Engineer and Medical regiments, special troops, and trains follow the right (south) column without distance.

(3) Motor elements of the Service Trains, now in bivouac in the area: Hauppauge—Smithtown Branch—crossroads 83, moving under control of G-4, proceed via the Smithtown Branch—New Village—Coram road to bivouacs according to the following table.

MARCH TABLE, MOTOR ELEMENTS OF SERVICE TRAIN

Serial No.	Unit	Present Location	Location 29 July	Remarks
1	Am Tr 2d FA Brig.	Between Hauppauge and Smithtown Branch.	Coram Hill	Head to pass eastern exit of Smithtown Branch at 12:00 noon.
2	2d Ord Co.	Between Hauppauge and Smithtown Branch.	Coram Hill	Follow Serial No. 1
3	2d Med Regt.	Hauppauge	One mile west of Coram Hill	Follow Serial No. 2. Clear Smithtown Branch at 12:10 PM.
4	Tn 2d Engrs.	Hauppauge	One mile west of Coram Hill	Follow Serial No. 3. Clear Smithtown Branch at 12:15 PM.
5	Div Tn.	Smithtown Branch	Coram—RJ 106—RJ 87.	Follow Serial No. 4.

(4) Battery E, 62d Coast Artillery (AA), will cover the movement and bivouac of the engineer and medical regiments, special troops, and trains, one platoon covering the movement of foot troops and animal elements.

(5) Elements may be marched between organizations in the columns.

(6) The division command post will be at Coram Hill.

6. REQUIREMENT.—The orders issued by the commanding officer, Battery E, 62d Coast Artillery (AA), for the advance.

NOTE: Rates of march may be assumed as follows:

Foot troops and animal elements: $2\frac{1}{2}$ miles per hour.

Motor columns: 8 miles per hour.

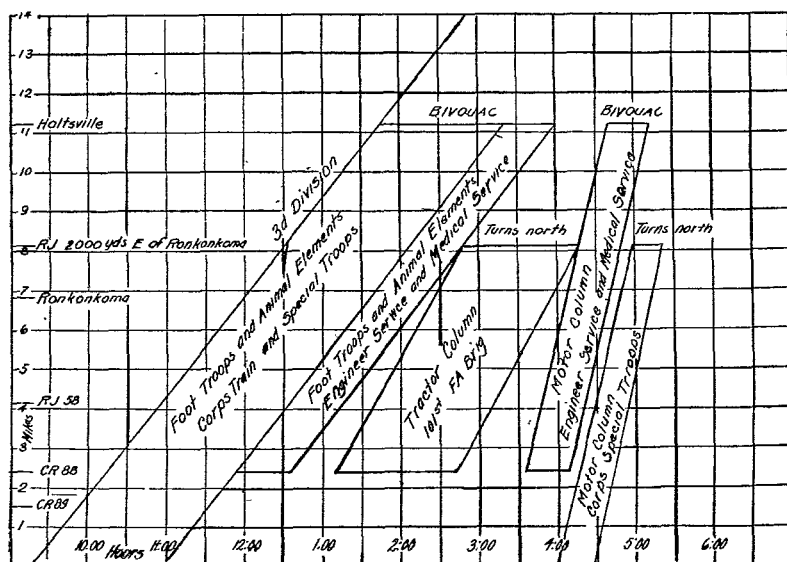


FIG. 3

FIELD EXERCISE No. 3

Notes for the Umpire

1. *a.* On the completion of Field Exercise No. 2, the umpire will call upon each organization commander to state the time and place at which he would leave his organization for reconnaissance.

b. The umpire will determine the times at which each organization commander and each organization would arrive at a point near which the organization might leave the marching column to occupy its position.

c. On the day the exercise is held, organizations will proceed from Camp Upton to the points selected by the umpire and halt in march formation on the road. Organization commanders will then be permitted to issue such orders as they desire to give when leaving the column for reconnaissance.

d. Organization commanders, with their parties, will be released at the times selected by the umpire.

e. Organizations will be released at the times designated by the umpire, and will be required to leave the road on which the column is marching or proceed on the road at such a time and rate as to prevent interference with the march of the assumed troops preceding or following them.

FIELD EXERCISE No. 4

	Paragraphs
SECTION I. Special Situation (Blue)	1-2
II. Special Situation (Blue), continued	3-4
III. Extracts from Tactical and Administrative Plans of Divisions	5

SECTION I

(To be issued as of 12:00 Midnight, 29-30 July)

NOTE: The situation in Field Exercise No. 4 is a continuation of the situation in Field Exercise No. 3.

1. MAPS: Geological Survey, New York, 1:500,000. Corps of Engineers, U. S. Army, Tactical Map, 1:62,500; Riverhead, Moriches, Setauket, and Fire Island quadrangles.

2. SPECIAL SITUATION (BLUE).—*a.* Early on the morning of 29 July a Red force attacked on the front of the 1st Brigade and made a deep penetration in the vicinity of Friars Head.

b. By 8:00 PM, the I Corps had advanced to its bivouac area west of the line: Brookhaven—Yaphank—Middle Island. At this time the situation as known to the corps commander was as follows:

(1) The Red force, estimated as two divisions, attacked at several points in the sector of the 1st Brigade an deast of Roanoke Point. An early penetration in the vicinity of Friars Head forced the withdrawal of elements of the 1st Division east of that point, permitting rapid debarkation and effective support of the penetration. The air service has reported additional transports in Long Island Sound and a fleet of light draft vessels proceeding west in Gardners Bay.

(2) During the landing operations hostile attack aviation supported the landing parties by repeated bombing and machine gun attacks on artillery and reserves.

(3) The right of the 1st Division is withdrawing to the lines: Sweyze—crossroads 69—Fresh Pond Landing, with detachments between Riverhead and Sweyze. West of Fresh Pond Landing all attacks have been repulsed and the 1st Division holds the beach.

(4) The II Corps, followed by army troops of the First Army, is marching east on Long Island. The leading elements are expected to arrive on the line: Coram-Port Jefferson early on the morning of 1 August.

c. At 12:00 midnight, 29-30 July, at his command post at Medford Station, the Corps Commander, after explaining the situation as given above, issued to his staff and the division commanders the following warning order:

(1) The I Corps will occupy a defensive position across Long Island until the arrival of the remainder of the First Army.

Outpost Line of Resistance: Moriches-crossroads 52-eastern end of South Manor-Manorville-North Pond-Deep Pond-road junction 88.

Battle Positions, Line of Resistance: Forge River-hill one mile southwest of South Manor-Grass Pond-Wading River.

Formation: divisions in line in order from right to left: 3d, 2d, 1st.

(2) The 3d Division will occupy and defend the right (south) sector and cover the right of the corps.

Left Boundary: Plainfield Station-Yaphank-South Manor-crossroads 102-Bald Hill (all exclusive).

(3) The 2d Division (less one regiment) will organize and defend the center sector.

Right Boundary: same as left boundary, 3d Division.

Left Boundary: Coram-Middle Island (both inclusive)-road junction 107 (exclusive)-Linus Pond-Sandy Pond (both inclusive)-Peconic River (exclusive).

(4) The 1st Division will occupy and defend the left (north) sector. It will delay the advance of the enemy and cover the left of the corps.

Right Boundary: same as left boundary, 2d Division.

(5) The 101st Field Artillery Brigade will support the corps from positions east of the line: railroad crossing 93-road junction 83-road junction 107-crossroads 79. Positions will be occupied during the night 30-31 July.

(6) Covering forces will be sent forward early on 30 July.

(7) All elements will be in position by 3:00 AM, 31 July.

(8) The field order for the occupation of the position will be issued at about 8:00 AM, 30 July.

d. The corps commander informed the Commanding Officer, 62d Coast Artillery (AA), that the 710th Coast Artillery (AA) would arrive at Holbrook at 12:00 noon, 30 July, and would be attached to his regiment, and directed him to prepare the antiaircraft subparagraph for the field order.

SECTION II

(To be issued at 8:00 AM, 30 July)

3. SPECIAL SITUATION (BLUE), continued.—a. At 8:00 AM, 30 July, the Commanding Officer, 62d Coast Artillery (AA), received a copy of Field Orders No. 12, I Corps, which was as follows:

I Corps,
MEDFORD STATION, L. I.,
30 July 1926, 7:45 AM.

FIELD ORDERS }
No. 12 }

Maps: Geological Survey, New York, 1:500,000. Corps of Engineers, U. S. Army, Tactical Map, scale 1:62,500; RIVERHEAD, MORICHES, SETAUKET and FIRE ISLAND quadrangles.

1. *a.* A hostile force estimated as two divisions effected a landing on 29 July in the vicinity of FRIARS HEAD and advanced to the line: RIVERHEAD-SWEYZE-CR 69-FRESH POND LANDING. Our air service reports additional transports in LONG ISLAND SOUND and a fleet of light draft vessels proceeding west in GARDNERS BAY. During the landing operations hostile attack aviation supported the landing parties by repeated bombing and machine gun attacks on artillery and reserves.
- b.* (1) The 1st Division is holding the line: SWEYZE-CR 69-FRESH POND LANDING north shore of LONG ISLAND to WOODHULL LANDING, with detachments between RIVERHEAD and SWEYZE.
(2) The II Corps will arrive on the general line: CORAM-PORT JEFFERSON early on the morning of 1 August.
(3) Our Air Force delays the hostile advance by bombing transports and attacking concentrations of troops on shore.
2. *a.* This corps will occupy a defensive position across LONG ISLAND to stop the hostile advance and cover the concentration of the remainder of the First Army.
b. Outpost Line of Resistance: MORICHES-CR 52-eastern end of SOUTH MANOR-MANORSVILLE-NORTH POND-DEEP POND RJ 88.
Battle Position, Line of Resistance: FORCE RIVER-hill one mile southwest of SOUTH MANOR-CRASS POND-WADING RIVER.
Formation: Divisions in line in order from right to left: 3d, 2d, 1st.
3. *a.* The 3d Division will organize and defend the right (south) sector and cover the right of the corps.
Left Boundary: PLAINFIELD STA.-YAPHANK-SOUTH MANOR-CR 102-BALD HILL (all excl).
b. The 2d Division (less one regiment) will organize and defend the center sector.
Right Boundary: same as left boundary, 3d Division.
Left Boundary: CORAM-MIDDLE ISLAND (both incl)-RJ 107 (excl)-LINUS POND-SANDY POND (both incl)-PECONIC RIVER (excl):
c. The 1st Division will organize and defend the left (north) sector. It will delay the hostile advance and cover the left of the corps.
Right Boundary: same as left boundary, 2d Division.
d. (1) The 101st Field Artillery Brigade will support the corps in the defense from positions east of the general line: railroad crossing 93-RJ 83-RJ 107-CR 79, as follows:
101st Field Artillery: vicinity of the CR 79-RJ 83-RJ 85 road.
Mission: support the 1st Division.
102d Field Artillery: south and southeast of CR 98 (1010.5-2044.0).
Mission: general support.
103d Field Artillery: vicinity of CR 98 (1012.5-2040.7).
Mission: support the 3d Division.

104th Field Artillery: north of CR 98 (1010.5-2044.0).

Mission: general support.

(2) Positions will be occupied during the night 30-31 July.

e. The 5th Infantry will remain in the area east of CORAM HILL in corps reserve.

f. Air Service:

(1) Divisional air services will reconnoiter to the line: EAST QUOGUE-RIVERHEAD-CENTERVILLE, commencing at daylight, 30 July, reporting movements of hostile forces.

(2) The Corps Air Service, operating from a landing field in the vicinity of CR 123 (northeast of HOLTSVILLE) will observe hostile movements on land and water east of the above line.

(3) The 101st Balloon Group is assigned as follows:

101st Balloon Company will observe for the first Division and the 101st Field Artillery.

102d Balloon Company will observe for the Corps and the 102d Field Artillery.

103d Balloon Company will observe for the 3d Division and the 103d Field Artillery.

104th Balloon Company will observe for the 104th Field Artillery.

g. Antiaircraft Artillery: (As recommended by the Commanding Officer, 62d Coast Artillery).

x. (1) Covering forces will be sent forward early on the morning of 30 July, conducting active reconnaissance to the east.

(2) Outpost forces will not exceed two battalions of infantry in each division sector. In case of a general attack outposts will be withdrawn at the discretion of division commanders.

(3) The battle position will be held at all costs.

(4) The corps artillery has priority on the following roads from 8:00 PM, July, to 12:00 midnight, 30-31 July.

(a) RJ 169 (2 miles north of MEDFORD STA.)-CORAM-MIDDLE ISLAND-RIDGE.

(b) RJ 169-CORAM HILL-RJ 66-CR 98.

(c) RJ at (1000.7-2040.8)-RJ 49 (Yaphank)-RJ 40-CR 98.

(d) MEDFORD STA.-PLAINFIELD STA.-RJ 40 (YAPHANK).

(5) All elements will be in position by 3:00 AM, 31 July.

4. See Administrative Orders No. 18.

5. Command Posts:

I Corps: MEDFORD STA.

1st Division: RJ 104 (1002.5-2049.0).

2d Division: CORAM HILL.

3d Division: CR 93 (southeast of PLAINFIELD STA.)

By order of Lieutenant General A:

X,
Chief of Staff.

b. At the same time (8:00 AM), G-4 furnished the Commanding Officer, 62d Coast Artillery (AA), the following memorandum of data

to be included in Administrative Orders No. 18, which is to be issued at a later hour.

1. SUPPLY.

a. Railheads, beginning 3 July.

1st Division: 2½ miles east of ECHO.

2d Division: PLAINFIELD STA.

3d Division: BELLPORT STA.

Corps troops: MEDFORD STA.

b. Ammunition,

(1) Refilling point, all classes of ammunition: Ammunition Depot No. 1, HOLTSVILLE.

(2) Distributing points, corps artillery ammunition:

(a) East of RJ 40 (YAPHANK).

(b) North of MIDDLE ISLAND.

2. EVACUATION.

a. Casualties.

(1) Men.

(a) Evacuation to PATCHOGUE.

(b) Hospital Station for corps troops: PATCHOGUE.

(2) Animals.

Evacuation to BELDEN.

3. TRAFFIC.

Rear boundaries of divisions: HAGERMAN-PLAINFIELD STA.-CORAM-MT.

SINAI (all to divisions).

4. TRAINS.

a. Corps Train bivouac: Northwest of HOLTSVILLE.

b. Corps Artillery Ammunition Train bivouac: North of MEDFORD STA.

4. REQUIREMENT.—The occupation of positions by the 62d Coast Artillery (AA) to cover the corps in the defense.

SECTION III

(To be made available after 11:00 AM, 30 July, to any member of the 62d Coast Artillery (AA) on his request made to an umpire representing the division commander or member of his staff)

5. EXTRACTS FROM TACTICAL AND ADMINISTRATIVE PLANS OF DIVISIONS.

a. First Division.

(1) The 1st Brigade on withdrawing will occupy the position from Grass Pond to Wading River.

(2) The 2d Brigade (less one regiment) continues to hold the shore line from Wading River to Woodhull Landing.

(3) The 4th Infantry will be in division reserve near crossroads 79.

(4) The Service Trains will remain in bivouac in the area: crossroads 115—road junction 143—road junction 120—crossroads 2½ miles southeast of Echo.

(5) Bivouacs of Field Trains, in the area: Middle Island—cross-roads 100—road junction 104—road junction 90.

(6) Artillery ammunition distributing point: road junction 78.

b. 2d Division.

(1) Boundary between brigades: road junction 91—Manorville, both to the 4th (right) Brigade.

(2) Division reserve (one battalion), near road junction 83.

(3) Service Trains remain in bivouac in the area: Coram—Coram Hill.

(4) Bivouacs of Field Trains: between Yaphank and Middle Island.

(5) Artillery ammunition distributing points: road junction 49 (Yaphank) and road junction 66.

c. 3d Division.

(1) Boundary between brigades: road junction 33 (to right brigade)—crossroads 60 (to left brigade)—crossroads 45 (to right brigade).

(2) Division reserve (one regiment less one battalion), 1½ miles east of Yaphank Station.

(3) Service Trains bivouac: Northern part of Hagerman.

(4) Bivouac of Field Trains: North of Brookhaven and near Yaphank Station.

(5) Artillery ammunition distributing point: South Haven.

FIELD EXERCISE No. 5

SECTION I. Special Situation (Blue)	Paragraphs 1-3
II. Special Situation (Blue), continued	4-5
III. Extracts from Tactical and Administrative Plans of Divisions	6

SECTION I

(To be issued as of 3:00 PM, 2 August)

NOTE: The situation in Field Exercise No. 5 is a continuation of the situation in Field Exercise No. 4.

1. MAPS: Geological Survey, New York, 1:500,000. Corps of Engineers, U. S. Army, Tactical Map, 1:62,500; Riverhead, Moriches, Setauket, and Fire Island quadrangles.

2. SPECIAL SITUATION (BLUE).—*a.* By 3:00 AM, 1 August, the elements of the I Corps were in position as directed in Field Orders No. 12, 31 July 1926. During 31 July, the right of the 1st Division delayed the hostile advance and shortly after dark occupied the defensive position.

b. The location of the Red forces at 8:00 PM, as reported by divisions and the air service, was as follows:

The advance elements of the force which effected the landing near Friars Head on 30 July were in contact with the outpost in the 1st Division sector. Additional Red forces, debarking on the north shore in the vicinity of Friars Head and at various points on the eastern part of Long Island, advanced to the southwest and west. The bulk of these forces were observed going into bivouac east of the general line: West Hampton-Bald Hill-Calverton.

c. The following events occurred up to 8:00 PM, 2 August:

(1) On the morning of 1 August the Red forces continued their advance to the east and by evening their advance elements were in contact with the outpost across the entire front of the I Corps.

(2) Early on the morning of 2 August the Red force, estimated as four divisions, launched an attack which effected minor penetrations of the battle position. All local penetrations were successfully checked and by evening the I Corps had driven back the Red assault and occupied the battle position across the whole front.

(3) During the attack the Reds were weak in medium and heavy artillery, and employed concentrations of attack aviation against the Blue artillery and reserves.

(4) The Blue air force succeeded in effecting considerable delay and confusion in the debarkation of additional Red forces.

(5) Shortly before dark, Red troops were observed constructing intrenchments on the general line: Center Moriches-railroad crossing 76-railroad crossing 37 (one mile northeast of Manorville)-Swan Pond-road junction 83-crossroads 100.

(6) The advance elements of the II Corps, marching east during the night 1-2 August, with the 4th and 5th Divisions abreast, 4th Division on the right, reached the line: Coram-Port Jefferson shortly before daylight. The 4th Division was advanced during 2 August to the area: Coram Hill (exclusive)-Artist Lake-road junction 104 (both inclusive). The II Corps command post has been established at Seldon.

d. At 8:00 PM, 2 August, the following warning order was received at the command post of the I Corps:

First Army,
RONKONKOMA, L. I.,
2 August 1926, 7:30 PM.

To: The Commanding General, I Corps.

1. I intend to attack on the morning of 4 August with the I and II Corps. Boundary between corps, CORAM HILL (to I Corps)-PECONIC RIVER (to II Corps).
2. The 1st Division passes to the II Corps at 4:00 PM, 3 August.

3. Elements of the 2d Division in contact with the enemy north of the corps boundary will be relieved by the II Corps during the night 3-4 August by arrangement between corps commanders.
4. Every effort will be made to conceal preparations for the attack.
5. Orders for the attack will be issued tomorrow morning.

G,
General.

e. At 9:00 PM, the corps commander, after a telephone consultation with the II Corps commander, informed his staff and the division commanders, who had been assembled at the command post for the purpose, of the contents of the warning order, and gave the following directions:

(1) The 101st Field Artillery will withdraw from positions and assemble in the vicinity of Yaphank and Yaphank Station by daylight, preparatory to going into position the following night.

(2) Two battalions of the 104th Field Artillery will withdraw from positions and assemble in the vicinity of railroad crossing 93 preparatory to going into position the following night.

(3) Infantry of the 2d Division in rear of the battle positions, and field trains of the 2d Division will be moved south of the new corps boundary tonight.

3. **REQUIREMENT.**—The orders issued by the regimental commander and battalion commanders of the 62d Coast Artillery for any redistribution to be made during the night 3-4 August.

SECTION II

(To be issued at 8:00 AM, 3 August)

4. **SPECIAL SITUATION (BLUE)**, continued.—*a.* At 8:00 AM, 3 August, Field Orders No. 3, First Army, and its Annexes were received at the command post, I Corps. The Antiaircraft Artillery Annex, which was turned over to the Commanding Officer, 62d Coast Artillery (AA), is as follows:

ANNEX NO. 4 TO FIELD ORDERS NO. 3 FIRST ARMY ANTIAIRCRAFT ARTILLERY

First Army,
RONKONKOMA, L. I.
3 August 1926, 7:30 AM.

Maps: Geological Survey, NEW YORK, 1:500,000. Corps of Engineers, U. S. Army, Tactical Map, 1:62,500; RIVERHEAD, MORICHES, SETAUKET and FIRE ISLAND quadrangles.

1. *a.* A hostile force estimated as four divisions made an unsuccessful attack on our I Corps on 2 August and is engaged in entrenching on the general line: CENTER MORICHES—railroad crossing 76—railroad crossing 37

one mile northeast of MANORVILLE)—SWAN POND—RJ 83—CR 100. Additional Red forces debarking on the eastern part of LONG ISLAND were delayed and disorganized by our Air Force.

- b. (1) Our I Corps holds the line: FORCE RIVER—hill one mile southwest of SOUTH MANOR—GRASS POND—WADING RIVER.

- (2) The First Army attacks at 4:00 AM, 4 August, to penetrate the hostile position in the direction: SOUTH MANOR—RIVERHEAD and to drive the enemy to the east.

Boundary between corps: CR 155 (north of HOLBROOK—CORAM HILL (both to I Corps) —RJ 91—PECONIC RIVER (both to II Corps).

- (3) The I Corps attacked with two divisions abreast. The 5th Division, moving during the night 3-4 August to the area: railroad crossing 52—YAPHANK—RJ 66 road (excl)—CORAM HILL—PLAINFIELD STA. (both incl), passes to the I Corps.

- (4) The II Corps, attacking with two divisions abreast, makes its main effort on its right and assists the advance of the I Corps.

- (5) The 16th Infantry assembles southwest of MIDDLE ISLAND in army reserve.

- (6) The Army Artillery (two regiments) supports the attack from positions east of the railroad crossing 93—CR 98—RIDGE road. Prior to the hour of the attack all artillery firing will be from present positions only.

- (7) The Air Force, operating from airdromes east of HAUPPAUGE, delays the debarkation and advance of hostile reinforcements and supplies, and neutralizes hostile aerial reconnaissance.

- (8) Corps rear boundaries: SAYVILLE—CR 51—HOLBROOK—NEW VILLAGE—SEATUCKET STA. (all to First Army). Army establishments at RONKONKOMA, CENTRAL ISLIP, and SMITHTOWN BRANCH.

2. The antiaircraft artillery with the army will cover the army in the attack.

3. a. Corps Antiaircraft Artillery will cover the combat elements in the attack.

- (1) I Corps:

The 710th Coast Artillery (AA) reverts to army control at 8:00 PM, 3 August.

- (2) II Corps:

The initial gun defense will extend well forward near the corps right boundary.

- b. Army Antiaircraft Artillery:

- (1) The 710th Coast Artillery (AA), with the 711th Coast Artillery (AA) attached, will cover the 5th Division and elements in the area: MEDFORD STATION—CORAM—NEW VILLAGE—RONKONKOMA. It will be prepared for partial forward displacement to cover the advance of the 5th Division to the east.

- (2) The 712th Coast Artillery (AA) will cover the airdromes east of HAUPPAUGE and establishments at CENTRAL ISLIP and SMITHTOWN BRANCH.

- x. (1) During 3 August, special attention will be given to neutralization of hostile aerial reconnaissance. See Plan of Cooperation with Pursuit Aviation (omitted).

(2) Every precaution will be taken to conceal preparations for the attack.

4. For Administrative details and locations of army establishments see Administrative Orders No. 8 (omitted).

5. *a.* Axes of signal communications:

First Army and 701st Antiaircraft Artillery Brigade: RONKONKOMA-YAPHANK STA.

b. Command Posts:

First Army and 701st Antiaircraft Artillery Brigade: RONKONKOMA.

710th Coast Artillery: HOLTSVILLE.

712th Coast Artillery: CENTRAL ISLIP.

By command of General G:

E,
Chief of Staff.

b. At 9:00 AM, 3 August, at his command post at Medford Station, the Corps Commander, I Corps, announced to his assembled staff and the division commanders the following plan of action:

(1) The I Corps attacks on 4 August to penetrate the hostile positions in the vicinity of South Manor and drive the enemy to the east.

Time of attack: 4:00 AM.

Line of departure: Moriches-CR 46-CR 52-South Manor-Manorville.

Formation: 2d and 3d Divisions abreast, 3d Division on the right.

Boundary between divisions: Plainfield Station-Yaphank Station-crossroads south of railroad crossing 93-South Manor-Bald Hill-Great Pond (all to 2d Division).

(2) The 2d Division, making its main effort on its right, will penetrate the hostile position in the vicinity of South Manor, secure the high ground three miles east of Manorville and drive the enemy to the east.

(3) The 3d Division, making its main effort on its left, will capture the high ground east of South Manor, assist the advance of the 2d Division by flanking action to the north, and drive the enemy to the east.

(4) The 101st Field Artillery Brigade, moving into position tonight, will support the attack as follows:

(a) The 101st Field Artillery, from positions south of the crossroads 60-road junction 43 road, will support the 3d Division.

(b) The 102d Field Artillery, from positions in the area: railroad crossing 48-railroad crossing 46-crossroads 48, will support the 2d Division.

(c) The 103d Field Artillery, from positions southwest of the hill one mile southwest of South Manor, will be in general support.

(d) The 104th Field Artillery, from positions in the vicinity of the South Manor-crossroads 48 (1014.2-2043.0) road will be in general support.

(5) The 5th Division will remain in the area: Coram Hill-Plainfield Station-Yaphank in corps reserve.

(6) Assault divisions will secure the line of departure after 6:00 PM.

(7) Axes of Signal Communications:

I Corps: Medford Station-South Manor.

2d Division: Yaphank-South Manor-Bald Hill.

3d Division: road junction 33 (one mile west of South Haven)-Moriches-Eastport.

Command Posts:

I Corps: Medford Station.

2d Division: Yaphank.

3d Division: road junction 33.

(8) Orders for the attack will be issued at about 11:00 AM.

c. Immediately after the conference the corps G-4 informed the Commanding Officer, 62d Coast Artillery (AA), of the following administrative details:

(1) Railheads:

3d Division: Bollport Station.

2d Division: Yaphank Station.

5th Division: Plainfield Station.

Corps Troops: Medford Station.

(2) Distributing point for corps artillery communication: crossroads 98 (1012.5-2040.6).

(3) Hospital Station for corps troops remains at Patchogue.

(4) Corps troops and trains remain in present locations.

(5) Division rear boundaries:

3d Division: Hagerman-Plainfield Station (to division).

2d Division: railroad crossing 52-Yaphank-road junction 66 road (to division).

5. REQUIREMENTS.—a. The antiaircraft artillery subparagraph of the corps field order, as recommended by the Commanding Officer, 62d Coast Artillery (AA). (To be submitted by 9:30 AM.)

b. The occupation of positions by the 62d Coast Artillery (AA) for the attack.

SECTION III

(To be made available after 11:00 AM, 3 August, to any member of the 62d Coast Artillery on his request made to an umpire representing the division commander or a member of his staff)

6. EXTRACTS FROM TACTICAL AND ADMINISTRATIVE PLANS OF DIVISIONS.

a. 2d Division:

- (1) Formation: Brigades abreast.
- (2) Forward positions of divisional artillery will be occupied by 3:00 AM, 4 August.
- (3) The division reserve (one battalion) will be held near road junction 83.
- (4) Service trains will move after 8:00 PM, 3 August from the area: Coram-Coram Hill to the vicinity of Yaphank Station.
- (5) Ammunition distributing points:
 - (1) Artillery: road junction 66.
 - (2) Infantry: crossroads 48.
- (6) Field trains remain in present bivouacs between Yaphank and Middle Island.

b. 3d Division:

- (1) Formation: Brigades abreast.
- (2) Forward positions of divisional artillery will be occupied by 3:00 AM, 4 August.
- (3) The division reserve (one battalion) will be held in the area two miles east of Yaphank Station.
- (4) Service trains remain in present bivouac in northern part of Hagerman.
- (5) Ammunition distributing points:
 - (1) Artillery: South Haven.
 - (2) Infantry: crossroads 98.
- (6) Field trains remain in present bivouacs north of Brookhaven and south of Yaphank Station.

FIELD EXERCISE No. 6

	Paragraphs
SECTION I. Special Situation (Blue)	1-3
II. Special Situation (Blue), continued	4-5

SECTION I

(To be issued at 9:00 AM, 4 August)

NOTE: The situation in Field Exercise No. 6 is a continuation of the situation in Field Exercise No. 5.

1. MAPS: Geological Survey, New York, 1:500,000. Corps of Engineers, U. S. Army, Tactical Map, 1:62,500; Riverhead, Moriches, Setauket, and Fire Island quadrangles.

2. SPECIAL SITUATION (BLUE).—*a.* The attack of the First Army was launched at 4:00 AM, 4 August. The 2d Division effected a penetration east of South Manor. The 3d Division, by flanking action from the south, captured the hill one mile south of crossroads 102. At 10:00 AM, the situation of the I Corps was as follows:

(1) Assault elements had reached the line: Eastport-hill one mile south of crossroads 102—point 37 (one mile northwest of Manorville). The 2d Division has suffered heavy losses. A portion of the divisional artillery has been advanced to the vicinity of the railroad southeast of Manorville. The division reserve is advancing from the vicinity of road junction 83 to the vicinity of crossroads 48. The 3d Division is advancing all of its divisional artillery, a portion being in position in the vicinity of the line: railroad crossing 74—railroad crossing 55. The division reserve is advancing from the area two miles east of Yaphank Station to the vicinity of crossroads 52.

b. At this time (10:00 AM) the Corps G-3 informs the Commanding Officer, 62d Coast Artillery (AA), that forward displacement of the corps artillery will begin at once, the 101st Field Artillery, advancing by battalion, to occupy positions south and southeast of railroad crossing 76. It will have priority on the crossroads 60—crossroads 46—crossroads 52 and roads to the east thereof. One battalion of the 103d Field Artillery will advance via South Manor to positions south of railroad crossing 55, beginning at 11:00 AM. He also states that the corps commander directed that special attention be given to the neutralization of hostile aerial reconnaissance during the displacement.

3. REQUIREMENT.—The orders issued by elements of the 62d Coast Artillery (AA).

SECTION II

(To be issued at 3:00 PM, 4 August)

4. SPECIAL SITUATION (BLUE), continued.—*a.* The attack continued and by 2:00 PM the assault elements had reached the line: Eastport-hill at (1023.0-2045.4)—Swan Pond. Brigade reserves of the 2d Division had been employed in the attack and heavy losses had been suffered. The division was unable to continue the attack. The attack of the II Corps has effected no material advance.

b. At 3:00 PM the corps' commander issued orders as follows:

(1) Preparatory to continuing the attack tomorrow morning, the 5th Division will relieve the 2d Division tonight. Command passes to the 5th Division at 2:00 AM, 5 August.

(2) The 2d Division will withdraw to the area: Yaphank Station—road junction 91—Coram Hill in corps reserve. The road: South Manor—

crossroads 50—crossroads 60—crossroads 98 crossroads 400 yards south of railroad crossing 93 is available for the movement.

(3) The remainder of the corps artillery will occupy positions generally east of the line: East Moriches—Manorville tonight.

(4) The 62d Coast Artillery will give special attention to covering troop movements during the night.

(5) Movements of troops will be confined to the hours of darkness.

(6) Orders for the attack will be issued later.

c. The Commanding Officer, 710th Coast Artillery, who was at the corps command post when the above order was issued, informed the Commanding Officer, 62d Coast Artillery (AA), that he would send a machine gun battery at once to cover elements in Hagerman and that one gun battery would occupy a position near the road junction 700 yards north of railroad crossing 93 immediately after dark.

5. REQUIREMENT.—The orders issued and the installation of communications by the 62d Coast Artillery (AA).

(To be continued)

APHORISME V.

Hide not from those of thy best and most private Councell the true state of thy cause, and discover not to thy Armie or Enemie thy wants or feares: for it encourageth the one, and quite dismayeth the other: But if confusion were at hand so eminent, as if heaven and earth had conspired thy overthrow, yet comfort thy selfe and Souldiers with hopefull words of assurance of some plottes and advantages thou hast against them (though thy heart apprehends truely the danger as it is) whereby thou maist make thy resistance the stronger, or procure thy peace upon better terms.—Ward's Animadversions of War (London, 1639).

EDITORIAL

WAR DEPARTMENT
OFFICE OF THE CHIEF OF COAST ARTILLERY
WASHINGTON

November 2, 1926.

To: The Officers of the Coast Artillery Corps, U. S. Army.

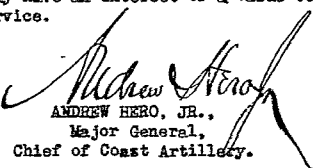
Subject: The Coast Artillery Journal.

1. Thirty-five years ago, at a time when the Artillery felt strongly the need of a medium for the exchange of opinion and for the spread of information, a small group of officers started the publication of the Journal of the United States Artillery as a quarterly of about 80 pages. The Journal, now called the Coast Artillery Journal, has been published continuously since that time and has developed into a monthly of more than a hundred pages.

2. The Coast Artillery Journal is now a publication of recognized high standard. Its primary purpose is the dissemination of artillery information. In addition, it is a medium for giving publicity to new and original ideas, especially those relating to artillery, and for the exchange of views on important subjects relating to the service at large.

3. The need for such a service periodical is no less than it was a third of a century ago, but, to be successful in serving its purpose, it requires the support of the officers of the Corps. In content, in make-up, and in appearance, the Journal compares very favorably with any service periodical published in this country or abroad. Whether or not it may continue to do so is dependent entirely upon the Coast Artillery officers of the three components of the Army. If those who encounter unusual situations, who are in contact with artillery developments, who develop new methods, or who are engaged in research, will make the results available to others through the Journal, its professional success will be assured and its value to the Coast Artillery increased.

4. If every Coast Artillery officer will also support the Journal by subscribing it will be possible still further to improve and enlarge it. This office hopes that every officer in the Coast Artillery will see his way clear both to subscribe to the Coast Artillery Journal and to contribute to it any of their experiences which may have an interest or a value to the other officers of our branch of the service.


ANDREW HERO, JR.,
Major General,
Chief of Coast Artillery.

The Journal

The COAST ARTILLERY JOURNAL, having completed thirty-five years of continuous service, desires again to express its appreciation of the past and present loyalty of the Corps. At the same time, it takes the opportunity of pointing out the fact that the JOURNAL is made, not by the editorial staff, but by the Corps at large. We merely represent the Corps; and all we do—all we can hope to do, is to prepare for publication the work of others.

Collectively and individually, officers of the Coast Artillery—Regulars, Reserves, and National Guard—have been urged to support the JOURNAL by subscribing and by writing. This may constitute support, but the number of subscriptions and the amount of manuscript received are by no means a measure of the usefulness of a periodical. With such support alone, it cannot be claimed that the value of a magazine is other than negative.

A *subscription* may mean much or little. It is to be presumed that the subscriber desires the periodical for the benefit he may derive from it, but there is also the possibility that the subscription may represent merely the recognition of a financial duty. One cannot safely make deductions from a perusal of the subscription list.

The *contribution* of manuscript implies far more. Practically all of us, in the course of our everyday existence, learn something of interest to others, discover something unknown to the rest, or become possessed of ideas seeking expression. Too many of these are never written out, but some are sent in. In general, the latter are unrewarded, for the JOURNAL, publishing, as it does, the least expensive of service publications, has never been able to pay for contributions. Contributions may therefore be considered as indicating an interest in the welfare of the JOURNAL and in the welfare of the Coast Artillery—an interest which can be expressed in no better manner and which should be more generally so expressed.

One thing more is required to confer value upon the JOURNAL; it must be *read* or it fails to achieve a legitimate place in the existing order. Subscriptions provide the funds that make publication possible; manuscripts provide the material for publication and determine the character of the periodical; but reading, the greatest compliment it can receive, determines its degree of usefulness. The JOURNAL is yours to make or mar, but if everybody in the Coast Artillery will do all these things, the editorial job will become a sinecure and the value and success of your periodical will be assured.

PROFESSIONAL NOTES

Tenth Coast Artillery (H. D.)

The Coat of Arms of the 10th Coast Artillery was approved by the War Department on February 27, 1926, and its blazonry reads as follows:

Shield: *Gules* (red), four cannon saltirewise base to base *or* (gold) above an anchor paleways *azure* (blue), fimbriated *argent* (silver) augmented of a canton per bend sinister, poly of fifteen, of the field (red) and of the fourth (argent), base of the second (gold).

Crest: On a wreath of the colors (gold and red), a triton torigned drawing a bow and arrow bendwise *or* (gold) above a sea-wave *vert* (transparent green) in front of a Latin cross couped *azure* (blue).

Motto: *Vaillant et Veillant* (Valiant and Vigilant).

The red of the shield signifies artillery; the blue anchor is taken from the coat of arms of the old Coast Defenses of Narragansett Bay, where the regiment was organized in 1924; the four cannon from the Roman numeral Ten, the number of the regiment. Battery "D," 10th Coast Artillery, claims parentage from Battery "C," 2d Coast Artillery (formerly 14th Company, Coast Artillery Corps). The latter has no coat of arms but the addition of a canton is made to indicate this parentage. but divided since only one battery can claim this parentage. Battery "C," 2d Coast Artillery, was part of the garrison of Fort McHenry, Maryland, and commanded by Captain Frederic Evans (called Evans' Company, since no regular designation were given to units at that time) during the bombardment of September 13, 1814, which occasion inspired Francis Scott Key to write the Star Spangled Banner. This event is taken from the coat of arms of the 2d Coast Artillery and depicted in the fifteen stripes in the canton, the flag of this period being composed of 15 stars and 15 stripes.

The blue cross in the crest indicates the Civil War Service of Battery E, 5th Regiment of Artillery (now Battery "E," 10th Coast Artillery). It served in the 3d Division, 6th Army Corps, during this conflict and participated in the following engagements: Near Spottsylvania Courthouse, Va., May 2, 1864; operations at and about Cold Harbor, Va., June 1-2, 1864; before Petersburg, Va., June 15-30 and July 1-Aug. 31, 1864; Sailors Creek, Va., April 6, 1865. The triton with bow and arrow symbolizes danger issuing from the sea against which the Coast Artillery in its forts must guard.

The motto *Vaillant et Veillant* is to express the character of the regiment; also, the letters V and V added together give the number of the organization.

The history of the units of the 10th Coast Artillery is as follows:

Headquarters Battery was organized in 1917 as the Artillery Engineer's Company, Coast Defenses of Narragansett Bay, and designated the 2d Company, Coast

Defenses of Narragansett Bay, later in the same year. It was discontinued on March 14, 1921; but was reconstituted and consolidated in 1926 with Headquarters Battery, 10th Coast Artillery, which had been organized as such in 1924.

Battery A, 10th Coast Artillery, was organized in 1901 as the 97th Company, Coast Artillery; designated the 1st Company, Fort Adams, R. I., in 1916, and 6th Company, Coast Defenses of Narragansett Bay, in 1917; changed to 4th Company, Coast Defenses of Narragansett Bay, in 1919; merged with the 1st Company, Coast Defenses of Narragansett Bay, in March, 1921; reconstituted in 1926 and consolidated with Battery A, 10th Coast Artillery, which had been organized as such in 1924.

Battery B, 10th Coast Artillery, was organized in 1901 as the 102d Company, Coast Artillery; designated 5th Company, Fort Adams, R. I., in 1916, and 5th Company, Coast Defenses of Narragansett Bay, in 1917; consolidated with the 1st Company, Coast Defenses of Narragansett Bay, in 1919 (this unit had been organized as Headquarters Company, Coast Defenses of Narragansett Bay, in 1917, and became the 1st Company, Coast Defenses of Narragansett Bay, later in the same year); redesignated 102d Company, Coast Artillery Corps in 1922; and became Battery B, 10th Coast Artillery, in 1924.

Battery C, 10th Coast Artillery, was organized in 1901 as the 110th Company Coast Artillery; designated 3d Company, Fort Greble, R. I., in 1916, and 8th Company, Coast Defenses of Narragansett Bay, in 1917; became 5th Company, Coast Defenses of Narragansett Bay, in 1919; merged with the 6th Company, Coast Defenses of Narragansett Bay, and designated the 2d Company, Coast Defenses of Narragansett Bay, in March, 1921; reconstituted in 1926 and consolidated with Battery C, 10th Coast Artillery, which had been organized in 1924.

Battery D, 10th Coast Artillery, was organized in 1907 as the 129th Company, Coast Artillery Corps; designated the 3d Company, Fort Adams, R. I., in 1916, and 3d Company, Coast Defenses of Narragansett Bay, in 1917; merged with the 2d Company, Coast Defenses of Narragansett Bay, in August, 1921; reconstituted in 1926 and consolidated with Battery D, 10th Coast Artillery, which had been organized in 1924.

Battery E, 10th Coast Artillery, was organized in 1861 as Company E, 5th Regiment of Artillery; designated 52d Company, Coast Artillery, in 1901; became 1st Company, Fort Rodman, Mass., in 1916, and 1st Company, Coast Defenses of New Bedford, in 1917; redesignated 52d Company, Coast Artillery Corps, in 1922; and became Battery E, 10th Coast Artillery, in 1924.

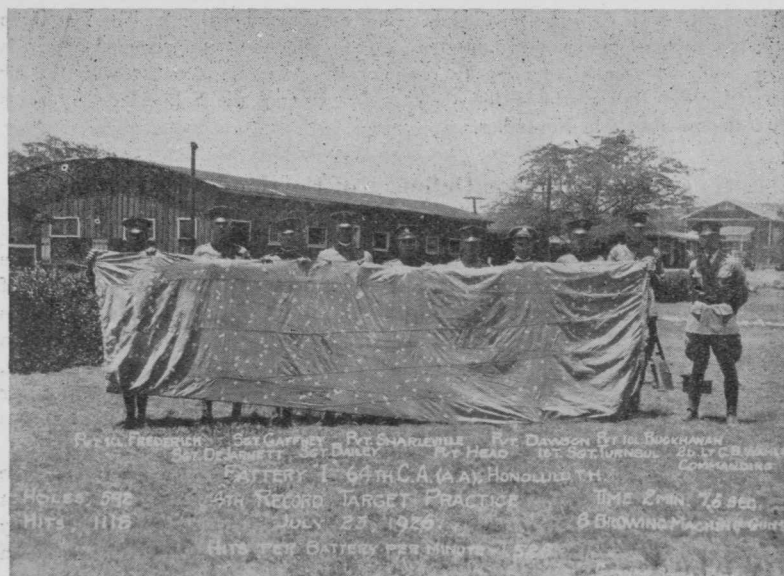
Battery F, 10th Coast Artillery, was organized in 1907 as the 147th Company; Coast Artillery Corps; designated 1st Company, Fort Winfield Scott, Calif., in 1916, and 1st Company, Coast Defenses of San Francisco, in 1917; became Headquarters Company, 18th Artillery, Coast Artillery Corps, in 1918, and again became 1st Company, Coast Defenses of San Francisco, later in the same year; redesignated 147th Company, Coast Artillery Corps, in 1922; and became Battery F, 10th Coast Artillery, in 1924.

Battery G, 10th Coast Artillery, was organized in 1922 as the 7th Company, Coast Defenses of Narragansett Bay; designated 174th Company, Coast Artillery Corps, later in the same year; and became Battery G, 10th Coast Artillery, in 1924.

The personnel of the 10th Coast Artillery wear on their uniform, as a distinctive regimental badge, the crest of their coat of arms, without the wreath, executed in gold and enamel.

Battery I, 64th Coast Artillery (AA)

Battery "I," 64th Coast Artillery (Antiaircraft), commanded by Second Lieutenant Carl B. Wahle, is the machine-gun battery of the regiment, and on its fourth record practice riddled the sleeve target, which was towed by an airplane, with 592 holes for 1118 hits.



TARGET OF BATTERY I, 64TH C. A. (AA)

This battery also won the Army record for this type of gun in 1925, and in so far as any other reports show still holds it for the year 1926, having broken its 1925 record by over 300 per cent. In addition, it won the Department antiaircraft competition for this year, this competition bringing together picked teams from all the artillery regiments in the Hawaiian Department.

Before becoming Battery "I," 64th Coast Artillery, this organization was Battery "C" of the 55th Coast Artillery, and as such won the Hawaiian Department antiaircraft machine-gun trophy in 1924.

Antiaircraft Artillery in Italy

In Italy, at the present time, the development of antiaircraft artillery is considered by the military authorities as of primary importance. This branch of the service has been outstripped by the extraordinary progress made in aviation—particularly in speed—during the past few years, and the antiaircraft weapons and methods of fire control have been practically obsolete. Pressed by the necessity of overcoming the weakness on the land frontiers engendered by antiquated antiaircraft materiel, the "Service of Artillery" is engaged in studies with a view to the development and modernization of antiaircraft weapons and fire control materiel and methods.

In further recognition of the increasing importance of antiaircraft artillery in any scheme of national defense, this branch of the service received an increase of two groups of three batteries each in the recent reorganization of the Italian army. The resultant addition to the antiaircraft artillery called for special training of both commissioned officers and enlisted men; and consequently, in November, the Antiaircraft School at Nettuno began a series of eight courses of instruction. The first five of these courses, each of three weeks' duration, are for the officers now with or to be detailed with the antiaircraft artillery. The last three courses, each of one month's duration, are for the enlisted personnel. Italy is apparently determined to bring the antiaircraft service to a parity with the air service, which demonstrated its efficiency by winning the Schneider Cup races at Hampton Roads in November.

Harbor Defenses of Portland

By J. R. JOHNSTON

From the early 17th century to the present day there always has been some form of fortification to protect the settlements clustered on the verdant shores of Portland Harbor, Maine. The comparatively insignificant defenses of the Puritans have grown amazingly, until today there exists an extensive and highly modern system of military posts composed of Forts Preble, Williams, McKinley, Levett, Baldwin, and Lyon. Located on the mainland and on islands in Casco Bay, their guns fully command the approach from the Atlantic and render probable invasions a precarious undertaking.

The country surrounding the coast defenses and the peninsula on which the city of Portland is situated has had a very interesting history. The first permanent settlement in the vicinity was established in 1633 at the foot of Munjoy Hill by Richard Tucker and George Cleeve, immediately after they had been ejected from land they had claimed at the mouth of the Spurwink. During the next few years the little colony was known variously as Casco, Casco Neck, Cleeve's Neck, and Munjoy's Neck.

Indian attacks were many, and the settlement suffered so severely in 1676 that it was deserted for the ensuing two years. In 1689 it was again assaulted, and in the next year was destroyed by the French and Indians, remaining desolate until after the Treaty of Utrecht in 1713. When the port of Boston was closed by the British in 1774, the bells of the churches in Portland were tolled from morning to night, and the town evidenced its sympathy for the patriot cause in many other ways. As a punishment, Portland was bombarded by a British fleet in October, 1775, and later burned.

The oldest of the forts in the harbor defenses of Portland is Fort Preble, located on the mainland about two miles east of the city. This fort was named in honor of Commander Edward Preble, U. S. Navy, who served with distinction during the Revolutionary War, commanded the Naval Expedition against Morocco and Tripoli in 1803, and who was killed off the coast of Maine in the War of 1812 in the engagement between the American brig *Enterprise* and the British brig *Boxer*.

The first permanent work erected at Fort Preble consisted of a redoubt, mounting thirteen guns and one howitzer, constructed in 1808. The first garrison of which there is any record was composed of two hundred Massachusetts Militia and was stationed at Preble in 1814. In 1827 the fort was strengthened by the addition of two new batteries to the right and left of the original redoubt. There

was no further construction until 1863, when a granite casemate, designed for more modern equipment, was started. Work on this was suspended in 1867. The construction of the first modern battery was begun in 1896 and finished in 1900, and since then the entire post has been modernized.

It was at Fort Preble that the 17th Regiment of Infantry was organized on May 4, 1861. Lieutenant Colonel J. Durell Greene arrived at Fort Preble July 6, 1861, and assumed command. Recruiting officers were assigned to various towns in Maine and New Hampshire, to which two states recruiting was at first restricted.

The "Trent affair" caused Great Britain to send several battalions to Canada during the winter of 1861-62, and the St. Lawrence being frozen, the troops landed in New Brunswick and were conveyed along the boundary line in sleds. A number of men deserted, found their way to the recruiting stations, and hence to Fort Preble, later to become noncommissioned officers in the newly organized regiment of infantry. They assisted materially by their knowledge and experience in organizing and disciplining the recruits.

The present garrison of Fort Preble consists of the Headquarters, Harbor Defenses of Portland, and the 8th Coast Artillery, less Battery "E."

Fort McKinley, situated on Great Diamond Island, about three miles north-east of Portland, was named in honor of President William McKinley. This is a thoroughly modern post, the construction of the defenses being started in 1893. At present the post is occupied by detachments of the Medical Corps and Quartermaster Corps.

Fort Williams, named in honor of Brevet Major General Seth Williams, is located at Portland Head, Cape Elizabeth, about four miles east of Portland. This fort was first established in 1873, but in 1876 construction work was suspended. Construction was not resumed until 1891, but since then the most modern types of fortifications have been erected, and as a whole, the fortifications of Portland Harbor are among the best equipped in the United States. The first organization to occupy Fort Williams was a detachment of Battery "E," Second Artillery, on February 19, 1898. The present garrison is composed of detachments of the Finance Department and the Medical and Quartermaster Corps.

Fort Levett, a small fort on Cushing Island, and Forts Baldwin and Lyon, are not garrisoned at present except by detachments of caretakers.

During the World War the 29th, 54th, 72d, and 73d Regiments of Coast Artillery, and the Fifth Antiaircraft Battalion, were organized at Portland Harbor.

It would be difficult to find a more pleasant post than Portland Harbor. The barracks and quarters are excellent and the post is equipped with bowling alleys, service clubs, gymnasiums, tennis courts, and baseball diamonds. In addition to having excellent fishing, bathing, and boating facilities in the summer, the garrison in winter is much occupied with all varieties of winter sports, such as skating, tobogganing, skiing, and snow-shoeing. In the fall many of the members of the garrison take advantage of the splendid hunting for which the state of Maine is noted.

As for the climate and scenery, the thousands of tourists who flock to Portland every year testify to its excellence in these respects. Casco Bay is dotted with over three hundred islands, which are covered with summer homes, hotels, golf links, and resorts. Portland itself, a city of over seventy-five thousand inhabitants, can be reached in a few minutes by trolley, boat, or automobile.

The Post of Portland Harbor was for years garrisoned entirely by Coast Artillery troops, and the assignment was much sought after by members of that corps. It has become equally popular with the organizations of other branches of the military service which have been and are now stationed there.

R. O. T. C. Graduates

A total of 5864 students were graduated from the R. O. T. C. during the past school year, according to figures recently received by the War Department. Of this number, 4842 were appointed Reserve Officers and 920 were issued certificates due to the fact that they had not yet reached their 21st birthday. Upon becoming 21 these latter graduates will be commissioned.

With several graduating students still to be heard from, it was announced that 4783 had accepted their appointments and there had been but two declinations.

An Invitation to all Ye Roaming Artillerymen

If you contemplate a visit to New York City, you will be interested in knowing that the local Coast Artillery Reserves are very active, and that they have monthly conferences which offer troop school instruction as well as the opportunity to meet old friends, and become acquainted with new ones.

These meetings are held in the Engineering Societies' Building, 29 West 39th Street, New York City, at 8:00 P. M., on the third Monday of each month:

November 15, 1926

December 20, 1926

January 17, 1927

February 21, 1927

March 21, 1927

April 18, 1927

May 16, 1927 and possibly

June 20, 1927

One of the most active participating regiments is the 607th Coast Artillery (Tractor) and they extend a most hearty invitation to all visiting brothers-in-arms to be their guests at these conferences.

Prior to the regular sessions, the Sea Hawks (as the 607th Coast Artillery is generally known) meet for dinner at some well known restaurant or club. For information regarding these delightful gatherings, when you are in New York, telephone the Commanding Officer, Colonel Robert S. Allyn, at Cortlandt 3497, or the Publicity Officer, Captain Abbott Oberndorfer, at Hanover 1600.

Meet, Mess and Mingle With Us

Battle Casualties of the United States Army in the World War

The task of rechecking and verifying the hundreds of thousands of records pertaining to battle casualties suffered by the United States Army during the World War and of compiling detailed statistics on the subject was completed by the Adjutant General's Office during the last fiscal year. Final figures show a total of 50,510 battle deaths of which 37,568 occurred in action and 12,942 resulted from wounds received in action. They also show that 193,663 non-mortal wounds received treatment in the cases of 182,674 individuals, making a grand total of 244,173 battle casualties, of which 244,086 occurred among members of the American Expeditionary Forces in Europe (including troops in northern Russia and at sea) and 87 among members of the American Forces in Siberia. Battle casualties among personnel of the United States Navy and the United States Marine Corps are not included in the figures, not even in the cases of members of those services who were wounded or killed while serving with the Army. Accidental wounds, received in action or otherwise, and shell-shock (including sycho-neurosis and concussion) were not considered in compiling the statistics. The number of shell-shock cases, as shown by the records, is 5016.

Of the 37,568 killed in action, 1656 (including one in Siberia) were officers and 35,912 (including 26 in Siberia) were enlisted men. Of the 12,942 who died of wounds, 559 (all A. E. F.) were officers and 12,383 (including 8 in Siberia) were enlisted men. Of the 182,674 individuals who were wounded, but not mortally, 6475 (including 4 in Siberia) were officers, 3 (all A. E. F.) were Army nurses, 1 (A. E. F.) was a field clerk, and 176,195 (including 48 in Siberia) were enlisted men. Many individuals were wounded more than once, the number of additional non-mortal wounds treated being 10,989.

The tables also show that 195,556 individual members of the American Expeditionary Forces in Europe (including those who died of wounds) were wounded once, 10,535 twice, 436 three times, and 18 four times. Of the grand total of 206,545 wounds, 127,228 (61.60 per cent) were caused by gunshot, 68,975 (33.40 per cent) by gas, 9486 (4.59 per cent) by shell, 229 (0.11 per cent) by air raid, and 164 (0.07 per cent) by bayonet. In the remaining 463 cases (0.23 per cent) the records do not show the nature of the wounding agency.

<i>Major operations and defensive sectors</i>	<i>Killed in action</i>	<i>Died of wounds</i>	<i>Total battle deaths</i>	<i>Wounds not mortal</i>	<i>Grand total casualties</i>
<i>Major operations</i>					
Aisne defensive	40	16	56	75	131
Aisne-Marne offensive	5,485	1,507	6,992	25,644	32,636
Cambrai defensive	5		5	18	23
Champagne-Marne defensive	1,223	262	1,485	5,551	7,036
Lys defensive	1	2	3	41	44
Meuse-Argonne offensive	19,445	6,832	26,277	95,786	122,063
Montdidier-Noyon defensive	36	18	54	526	580
Oise-Aisne offensive	1,373	546	1,919	8,248	10,167
St. Mihiel offensive	1,303	496	1,799	6,383	8,132
Somme defensive	15	2	17	66	83
Somme offensive	2,514	707	3,221	12,428	15,649
Vittorio-Veneto offensive	1		1	8	9
Ypres-Lys offensive	673	221	894	3,062	3,956
Total by major operations	32,114	10,609	42,723	157,836	200,559
Total by defensive sectors	4,898	2,273	7,171	35,154	42,325
At sea	370		370	5	375
Air raid (not in battle area)	26	7	33	116	149
Long range gun firing	1		1	11	12
With British	84	44	128	472	600
With French	46	1	47	17	64
With Italians	2		2		2
Grand Totals	37,541	12,934	50,475	*193,611	244,086
In Siberia	27	8	35	52	87
Aggregate	37,568	12,942	50,510	193,663	244,173

* The total number of individuals represented in this column is 182,622, the difference (10,989) being the number of additional non-mortal wounds that received treatment.

The Hump in Promotion

Recent studies by the War Department in conformity with an act of Congress, has disclosed that 5800 World War officers—about half the present personnel of the Regular Army—are faced with the discouraging prospect of an Army career confined largely to service in subordinate grades. These officers began their commissioned service between November, 1916, and November, 1918, so their military service varies by an average of less than two years. However, their prospects differ as though they had been commissioned over a period of twenty years of ordinary peace service.

After 1865, dignified old grandfathers found themselves still in the grade of lieutenant in the Regular Army. To a lesser degree a similar condition resulted after the war of 1898. Far more serious, however, is the condition which can be foreseen in the congestion of 5800 World War officers.

The Secretary of War has forwarded the studies to Congress with recommendations for remedial action. The remedies proposed will relieve this situation, which affects officers of all branches and is especially emphasized in the case of certain officers of the Air Corps.

Section 4 of the Act of Congress approved July 2, 1926 (Public 446, 60th Congress, commonly known as the "Air Corps Bill"), directs that the Secretary of War investigate and study the alleged injustices which exist in the promotion list of the Army and submit to Congress on the second Monday in December this study, together with recommendations of changes, if any, in the present promotion list.

A board consisting of the Assistant Secretaries of War and the Chief of Staff of the Army was convened in September, 1926, for the purpose of conducting a study on this subject and presenting conclusions and recommendations to the Secretary of War. Prior to that time all officers of the Army had been informed that they should present pertinent facts to the War Department for consideration.

The investigation of alleged injustices has been thorough and broad in scope. Due consideration has been given to numerous prior investigations and studies of the subject, to the circumstances of the original determination of relative seniority, and to the allegations of injustices contained in statements from interested officers.

Officers at the head of this group have been captains since 1917, whereas those at the bottom, with only two years' less service, cannot now expect to become captains before 1938, or until after twenty years' service as lieutenants. Some of those who have been captains since 1920 have prospects of service in that grade for a total of twenty-three years.

The senior officers in this World War group under present conditions will become majors twenty-three years earlier than those at the bottom of the group. The juniors face the prospect that they will not reach the grade of major until they are well over fifty-five years of age—too old for opportunity for higher advancement. When the junior officers in the World War group reach the grade of major, all positions in the Army above them will be filled with officers of only two years' more service.

The Board has concluded that the arrangement of officers in rank is fundamentally sound in principle and in its general composition. Some individuals and groups of officers now occupy disadvantageous positions, but the investigation reveals that methods cannot be devised to remedy such conditions without creating disadvantages to other individuals which would justify an equal, if not greater, discontent.

On the other hand, the Board has found that there exists a serious condition which already shows adverse effects, but which will become more serious with the passage of time. The 5800 officers who came into the service during the World War period appear as a "hump" on a diagrammatic representation of the officer personnel by age and grade. Small differences in length of service have created such great effect upon opportunity for promotion that resentment is felt at the far-reaching consequence of administrative provisions.

The studies further prove the seriousness of this congestion of World War officers as regards adverse effect upon the military service. The following are the outstanding features in that aspect of the present situation:

A large portion of the World War officers are faced with denial of that steady advancement through lower grades which is essential to experience and capacity for higher responsibility.

Prospect of long service in subordinate positions tends to stifle initiative and incentive.

Service in high grades will be too brief to overcome the effect of the long tenure in subordinate capacities.

Termination of the service of World War officers will commence in about twenty-five years when they occupy all positions in the Army above the grade of captain. Such wholesale losses will create great confusion and severely handicap the Army by reason of vacating many positions in a short period of time.

The officers who succeeded World War officers in turn will have been held in subordinate positions for many years and then elevated by rapid progress through higher grades.

To summarize, the situation is one wherein one-half the commissioned personnel will be renewed periodically in a short span of years.

The plan which has been recommended to Congress for relief of the condition disclosed by the investigation is in outline as follows:

1. In lieu of the prospective irregular flow of officers into and from the active list, a uniform flow to be established by requiring an annual turnover of not less than 4%.

2. The annual attrition of 4% to be accomplished by full utilization of existing means for removal of officers from the active list of the Army and by the following supplementary means:

- a. Brigadier Generals of the line and staff and Colonels commissioned in non-combatant branches to pass to the retired list upon reaching the age of 61 years or completing 37 years of commissioned service.

- b. Colonels commissioned in combatant branches to pass to the retired list upon reaching the age of 59 years or completing 35 years of commissioned service.

- c. Only so far as necessary to insure an annual attrition of 4% selective removals from the active list, in the discretion of the President, either upon application from officers or without such application, to be made from among the following:

- (1) Lieutenant Colonels over 57 years of age or of over 30 years of commissioned service.

- (2) Majors over 52 years of age or of over 25 years of commissioned service.

- (3) Captains over 47 years of age or of over 20 years of commissioned service.

- (4) Officers in any grade of over 8 years of commissioned service.

- d. Officers removed from the active list who have rendered over 20 years of commissioned service or who are over 45 years of age, to have the option of complete separation from the regular establishment with a fair gratuity or of transfer to the retired list. Other officers to be completely separated from the regular establishment with a fair gratuity.

- e. Officers transferred to the retired list to receive retired pay at the rate of 2½% of active pay at time of retirement, multiplied by the number of complete years of service. Those officers appointed July 1, 1920 when over 45 years of age to receive retired pay as provided for them by the Act under which they were appointed; that is, at the rate of 4% of active pay, multiplied by the number of complete years of commissioned service.

f. Officers who are completely separated from the regular establishment with a gratuity to receive an amount equal to \$30 multiplied by the number of complete months of commissioned service. Officers of this category who leave the service voluntarily will be permitted to resign and others will be discharged.

g. Officers completely separated from the regular establishment will, so far as practicable, be commissioned in the Officers' Reserve Corps.

3. Of the total number of officers, exclusive of the Medical Department, Chaplains and professors, 85/100 of 1% to be general officers of the line, in the ratio of 1 Major General to 2 Brigadier Generals; not less than 4% nor more than 6% to be Colonels; and not less than 25% nor more than 40% to be field officers (Colonels, Lieutenant Colonels and Majors). Subject to those limitations officers to be promoted according to the following schedules:

- a. To first lieutenant upon completion of 3 years of commissioned service.
- b. To Captain upon completion of 10 years of commissioned service.
- c. To Major upon completion of 17 years of commissioned service.
- d. To Lieutenant Colonel upon completion of 22 years of commissioned service.
- e. To Colonel upon completion of 28 years of commissioned service.
- f. To Brigadier General and Major General by selection from the next lower grade as at present.

In general the effects of this plan will be to regulate and make uniform the flow of officers into and from the active list, to gradually reduce the abnormal hump in the present list, and to provide a flow of promotion no greater than necessary to maintain the efficiency and effectiveness of the Army.

The plan duly respects both the rights and interests of the government and of individuals. In the administration of the plan the removal of officers from the active list may be largely voluntary rather than otherwise. The proposed automatic retirements of brigade generals and colonels will be of those officers who, after a reasonable opportunity, have not been selected for promotion and whose further retention in active service appears contrary to sound policy.

With the present authorized strength of 10,527 officers, exclusive of the Medical Department and Chaplains (these branches not being involved in the plan), the annual turnover of 4% would be 421 officers. The United States Military Academy will supply annually an average of about 225 of the second lieutenants required, thus affording an opportunity for about 200 appointments annually from other sources.

Existing pay schedules provide for periodic increases on the basis of length of service. The contemplated promotion schedule accords with the same periods, except from second to first lieutenant, so that promotion will occur without an appreciable increase in pay. An increase in pay for the junior officers is essential to prevent the large loss of untrained second lieutenants that the Army is now experiencing.

There should be a decrease in cost of the active list due to the removal of relatively expensive officers and their replacement by less expensive officers.

The removal of officers from the active list will involve some increased expenditure due to the payment of gratuities and to some increase in the retired list. This is not, however, an ultimate increase in the cost of the military establishment but is merely an anticipation of some of the increased cost of the retired list that is bound to occur eventually when officers pass to the retired list.

In the long run the plan should not cause any material increase in the combined cost of the active and retired list.

MILITARY NOTES

furnished by

THE MILITARY INTELLIGENCE DIVISION, G. S.

France

REDUCTION OF THE FRENCH ARMY.—Notwithstanding newspaper reports of the reduction of the French Army which have recently appeared, no law or decree changing the length of service has been passed since the law of April 1, 1923, which fixed the term with the colors at eighteen months. A project is being prepared for submission to the Chamber of Deputies which, if adopted, will reduce the service with the colors to a period of one year.

Several minor reductions have been effected as the result of a series of decrees carried out in accordance with the policy of economy inaugurated by the present Government. Among these, two may be mentioned. On September 17 a decree issued disbanding thirteen military hospitals as a measure of retrenchment. In future, when military hospitals are not available, military personnel will receive treatment in civilian hospitals.

On the same date, another decree abolished the French Remount Service. The Civil Breeding Service, which is under the Department of Agriculture, and the Army Remount Service, although separate services, have always worked together. The Remount Service has operated primarily as a distributing agency so that its abolishment is not as radical an act as might at first appear. In future, the Minister of Agriculture, through the Civil Breeding Service, will buy all horses and mules required by the army. A general officer is to be designated inspector of the Military Remount Service who will have control of the general organization of purchases and the supervision of deliveries of animals to the army in continental France and will have the inspection of the Remount Service in Algeria. He will have under his technical authority the officers attached to the Civil Breeding Service during purchases. The Remount Depots at Angers, Arles, Gueret, Merignac, and Montrogue are to be disbanded.

EMERGENCY ENTRAINMENT OF A TANK BATTALION.—A test entrainment under emergency conditions of a tank battalion recently occurred which shows the value of preparation and the keeping of carefully revised plans of operation for instant use when the occasion arises.

The Tank Regimental Commander was advised at 9:00 A. M. that one battalion of his regiment would entrain at 4:00 P. M. the same date. Information was immediately imparted to the battalion and company commanders at an officers' meeting, the formal entraining order being in their hands at 10:15 A. M. A train containing exactly the required number and type of cars was ready on the military switch at 2:30 P. M. Loading of troops and equipment was commenced at 3:00 P. M. and was entirely completed at 3:45 P. M. Equipment included tanks, trucks, rolling kitchens, and all other combat equipment. The entraining and detraining of this battalion was accomplished with practically no confusion. Im-

mediately after detraining the train was inspected by a railroad official and found not to have been damaged in any way.

It is believed that the maximum amount of training can be obtained from a test of this kind. The actual loading of the equipment of a tank organization on a train far excels any substitute form of training in loading.

Japan

MILITARY EDUCATIONAL FILMS.—A second military educational film has made its appearance in the moving picture houses of Tokio from whence it will be sent to other cities in Japan. This new film, like its predecessor, "Colonel Tachibana," was produced under the joint auspices of the War Department and the General Staff. The first film, "Colonel Tachibana," had as its motif the glorification of the patriotism of the Japanese soldier. It was very successful in this notwithstanding the fact which came to light after the film was released that the hero of the story, who was supposed to have given his life under most heroic circumstances, actually was alive and well and rather resentful of the premature reports of his death.

The new film entitled "Tatakai" or "War" shows the various phases of combat and is most useful both for propaganda before civilian audiences or for instructional purposes for the army itself. The picture deals with a type combat situation and depicts the various stages of the action from the time that the two forces are approaching one another, the meeting of patrols, the meeting engagement, followed by the deployment and ending with the launching of the main attack and its successful conclusion.

The system used is interesting. Each of the phases is introduced and explained by a series of animated drawings followed by actual pictures showing the same movements being carried out by individuals and units. For example, there first appears a map of the theater of operations on which various pointers and arrows are made to move about to show the advances and deployments that take place, the sending out of scouts and their various movements. The scene then shifts to actual pictures. In this manner all the movements of the infantry, cavalry, field artillery, and air service throughout their participation in the action are shown; the auxiliary arms appearing only in the pictures of real scenes in a most realistic manner.

Infantry troops were shown performing their usual functions in battle. On several occasions, where bodies of enemy troops were sighted by patrols, messages were sent to the rear by means of dogs equipped with a small harness in which were pockets where the messages were placed. In an advance over grassy terrain, squad rushes of twenty to thirty yards were employed to push the advance. Auto rifles were numerous on the firing line, the teams consisting of three men.

The film is very cleverly worked up and its proper reception by civilian audiences proves its value as a propaganda agency.

PROPOSED CHANGE IN LENGTH OF SERVICE.—According to the present plans of the War Department, which will be submitted in the Diet in December, the length of active service in the infantry arm is to be modified as follows:

Generally speaking the length of active service in the infantry will be eighteen months. To those who have successfully completed the course in military training in middle or higher schools, the period will be twelve months. To those who have received no training in schools or under the Young Men's Training Act, the period will remain the same as at present—twenty-two months and twenty days.

COAST ARTILLERY BOARD NOTES

Communications relating to the development or improvement in methods or materiel for the Coast Artillery will be welcome from any member of the Corps or of the Service at large. These communications, with models or drawings of devices proposed, may be sent direct to the Coast Artillery Board, Fort Monroe, Virginia, and will receive careful consideration. R. S. ABERNETHY, Colonel, Coast Artillery Corps, President Coast Artillery Board.

Projects Initiated During the Month of November

Project No. 501, Test of EE-8 Field Telephones.—Twenty newly manufactured Type EE-8 Field Telephones have been received from the Signal Corps for service tests.

Project No. 502, Test of Modified Impact Board.—This device was described in an earlier number of the COAST ARTILLERY JOURNAL. The first of these devices to be manufactured at Frankford Arsenal has been tested by the 12th Coast Artillery and is under study by the Coast Artillery Board.

Project No. 503, Calibration Corrector for Percentage Corrector.—This device consists of a sheet of xylonite with a scale and a sliding pointer. It replaces the "read" pointer of the Percentage Corrector. The pointer is set at the calibration correction, in percentage, on the scale. The ranges (or elevation) for both directing gun and gun for which calibration was applied are read from range (elevation) tape. The device is under study.

Project No. 504, Trailer for 5-ton Tractor for Mobile 3-inch Antiaircraft Guns.—The Coast Artillery Board has been directed by the Chief of Coast Artillery to conduct a service test of the 3-inch Field Gun Trailer, modified by the addition of 36"x7" tires to replace the standard 36"x6" tires. This trailer will be tested in the 61st Coast Artillery (AA) under the supervision of the Coast Artillery Board.

Project No. 505, Motor Vehicle Development.—A copy of correspondence relative to Motor Vehicle Development, prepared in the office of the Quartermaster General, was referred to the Coast Artillery Board by the Chief of Coast Artillery for comment.

Project No. 506, 250-Ampere Lamp Mechanisms for Seacoast Searchlights (Sperry and G. E.).—Two 250-Ampere Lamp Mechanisms have been shipped by the Board on Engineer Equipment to the Coast Artillery Board. The Coast Artillery Board has been directed by the Chief of Coast Artillery to make a service test of these lamp mechanisms to determine whether or not they are suitable for use on the 60-inch Barrel Type Seacoast Searchlight.

Project No. 507, Wildrick Antiaircraft Artillery Fire-Control Devices.—Major Meade Wildrick, Coast Artillery Corps, submitted a set of drawings of suggested fire-control instruments for antiaircraft machine guns and guns. Speed computers, range finders, and data computers are included in the system which is based on the Linear Speed Method.

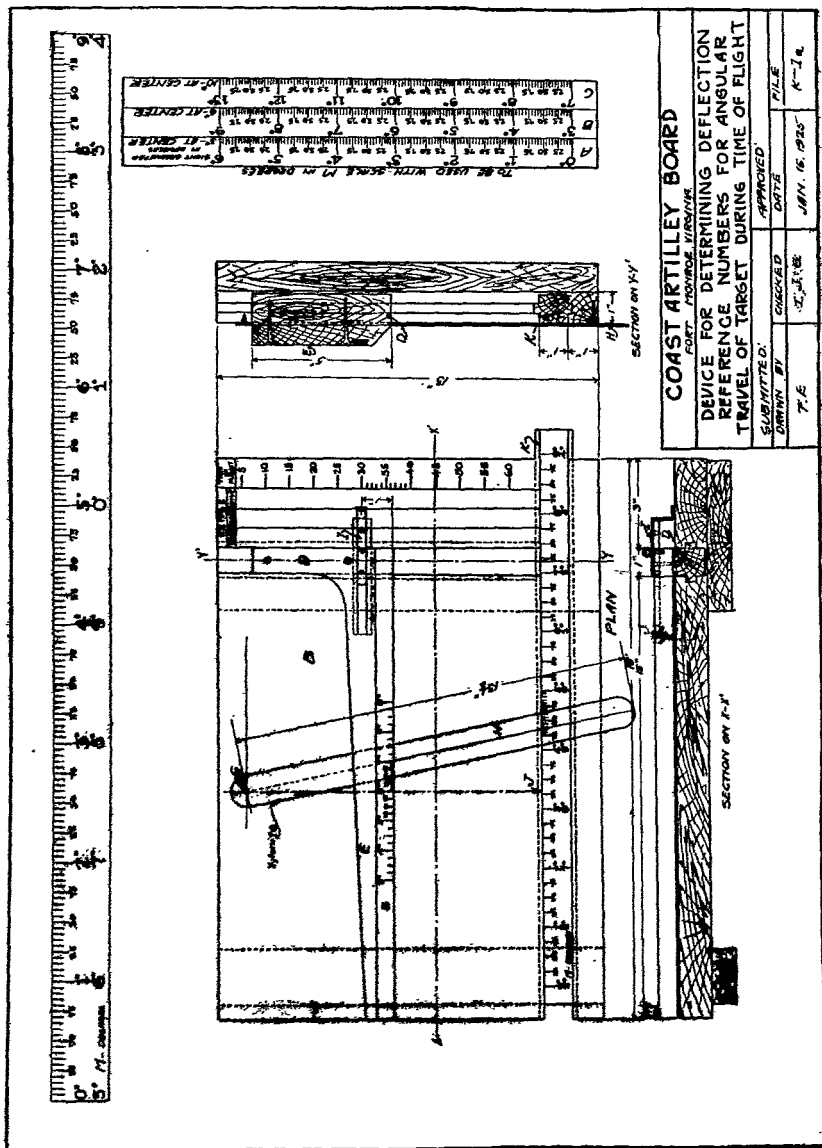


FIG. 1

Completed Projects

Project No. 483, Deflection Computer T-1

I—HISTORY OF THE PROJECT.

1. The Deflection Computer T-1 was designed by the Coast Artillery Board primarily for use with the Universal Deflection Board in Case II fire and was described in Coast Artillery Board Project No. 87, *Coast Artillery Board Universal Deflection Board* (published in the COAST ARTILLERY JOURNAL for May, 1925). The object of the device was to compute that part of the deflection necessary to compensate for the angular travel of the target during the time of flight.

2. The first of these devices to be manufactured at Frankford Arsenal was sent to the Coast Artillery Board. The following is quoted from 1st Indorsement OCCA, 665/AH-6, dated August 13, 1926: "It is requested that after examination of this device and such test as may be necessary, you submit the customary report to this office."

II—DISCUSSION.

3. The following is quoted from Coast Artillery Board Project No. 87, *Coast Artillery Board Universal Deflection Board*:

Device for determining travel during time of flight.—Reference is made to Coast Artillery Board Drawing K-1-a. This device is not essential to the operation of the deflection board discussed above, but is very convenient in determining the setting of the azimuth tape with reference to the set pointer G in order to correct for the angular travel of target during the time of flight of the projectile in Case II firing. All data for operating this device are secured by the operator, who might well be the wind component operator, from data called out in the plotting room for other purposes. The device consists of a board B having a vertical groove for carrying the slide D and the arm E. On the right of the board is a time of flight scale to a scale of 1 inch = 6 seconds. Columns for ranges in three zones are provided and opposite the various times of flight the ranges are to be written in for the particular gun and combination of projectile and powder charge. The pointer I may be moved so that its index is opposite the particular column of ranges being used and the slide I is then locked in position. Pivoted at G is an arm H having a reading line passing through G. When I is placed opposite zero time of flight the fiducial edge of E passes through the pivot G of the arm H. The board B has a fixed index J directly below the pivot G. The arm E carries a scale, the center of which is in line with the pivot G and fixed index J. This scale is graduated so as to give reference numbers for use in getting the tape on the deflection board described above in order conveniently to correct for angular travel of the target during time of flight of the projectile. The numbering of the graduations on the scale depends upon the numbering of the sight for the particular sight being used in Case II firing. The drawing of the design shows scales to care for different sight graduations as follows: The proper scale for a particular sight is mounted on the arm E. The scales are:

- (a) With 3 degrees normal (2, 3, 4, etc.),
- (b) With 6 degrees normal (5, 6, 7, etc.),
- (c) With 10 degrees normal (9, 10, 11, etc.),
- (d) Panoramic Sight 0, normal (359, 0, 1, etc.) (not shown in Fig. 1).

Slide K carries the scale M with double graduations in degrees to a scale of 2 inches = 1 degree with 0 and 5 on the left. The device may be used to determine deflection board reference numbers to correct for the angular travel of the target during the time of flight when travel has been determined

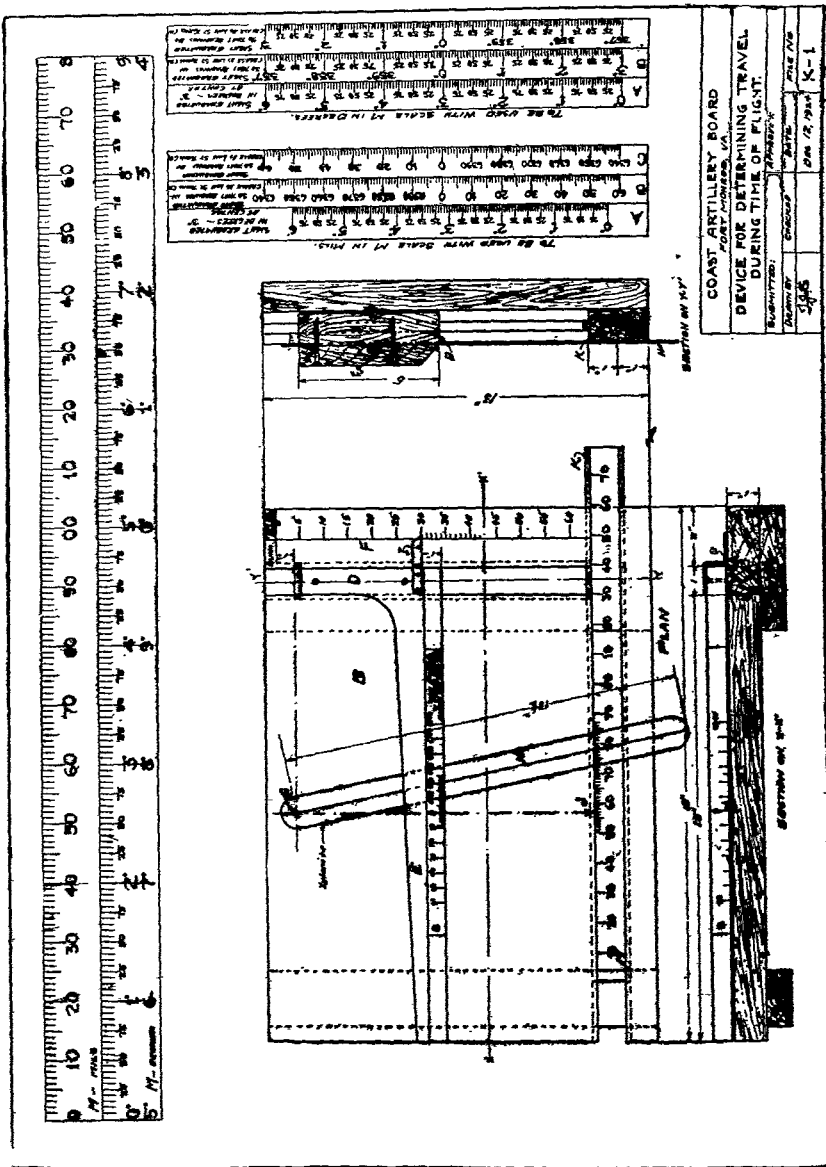


Fig. 2

in any manner for a 30-second interval as determined from the battery or approximate battery position. The angular travel during 30 seconds may be determined from azimuths of two setforward points or plotted points depending upon the particular situation, or from two successive 30-second azimuth readings of primary or secondary station instruments if located at the battery, or it may be determined from an azimuth instrument set up at the battery. Assume that it is desired to determine the proper deflection board reference number based on azimuths of two successive setforward points as heard called in the plotting room. It is necessary to remember only the last three figures of the setforward azimuth when degrees and hundredths are being used. Suppose 6 is the normal of the sight graduations of the sight being used and that the azimuth of the first setforward point is 233.30. Set 3.30 on M opposite index J. The azimuth of the second setforward point is 234.35. Set H to 4.35 on scale M. Set I for gun-target range determined in the plotting room for the projectile and charge being used. It will be noted that this operation places I opposite the time of flight corresponding to a particular range for a particular projectile and charge. Assume that this happens to be a range opposite the time of flight of 30 seconds. Above the reading line on H can be read 7.°05 on scale B. 7.°05 is a reference number to be set opposite the set pointer G on that part of the deflection board azimuth tape numbered for a sight having a normal of 6°. Until 155's are supplied with sights graduated in degrees the angular travel devices should be made for use with mil units and the Coast Artillery Board will furnish a suitable drawing for this purpose.

Coast Artillery Board drawings K-1 and K-1-a appear herewith as Figs. 1 and 2, respectively.

4. The name "Computer, Deflection" is misleading, as the device is used to compute only that part of the deflection necessary to compensate for angular travel during the time of flight, and the name "Computer, Angular Travel," would be more appropriate.

5. After the Coast Artillery Board had examined the device it was tested by Battery "B," 12th Coast Artillery. The report of the Battery Commander follows:

1. The following report on an angular travel computing device, turned over to this organization by the Coast Artillery Board for practical test, is submitted:

- a. The device is satisfactory.
- b. It may be used with either the Universal Deflection Board or the old standard Gun Deflection Board.
- c. When using the Universal Deflection Board a well trained operator can handle this device in addition to the Deflection Board.
- d. When using the old standard Gun Deflection Board an additional operator would be necessary.

6. The Coast Artillery Board concurs in the report quoted above.

7. The Computer, Deflection, is rugged and well made. The scales are accurate and the graduations and numbers are very clear and distinct.

8. It appears possible and desirable that a device for computing sight deflection for angular travel during the time of flight should be made an integral part of a deflection board.

III—CONCLUSIONS.

9. It is the opinion of the Coast Artillery Board that the Computer, Deflection—

- a. Is satisfactory as a means of computing the deflection for angular travel.

- b. Is the simplest device for computing deflection for angular travel which has come to its attention.
- c. Can be improvised locally.

IV—RECOMMENDATIONS.

10. The Coast Artillery Board recommends that:

a. In view of the probability of development of a deflection board embodying means of computing and including in sight deflection the angular travel of target in time of flight, this separate device be not at present adopted as a standard of manufacture.

b. The use of a device of this kind to be constructed locally as authorized.

c. This device be called "Computer, Angular Travel."

V—ACTION OF THE CHIEF OF COAST ARTILLERY.

665/AH-8

1st Ind.

War Department, O. C. C. A., December 8, 1926.—To the Chief of Ordnance.

The recommendations of the Coast Artillery Board contained in paragraph 10 of Project No. 483 are concurred in.

APHORISME IV.

Vertue is a Gemme of such excellencie, that even her Shadow, if it bee in a great Commander, doth much good to particular Officers by imitation, and to the publike Armie by participation. Wherefore, though simulation of what is good, and dissimulation of what is evill, are accounted vices in a private man; yet in a publike person, they are necessary evils; for if hee bee overt in expressing his nature, or prodigall in venting his purposes, it breeds dangerous consequences; for it harmes himselfe, and armes his enemie with prevention.
—Ward's Animadversions of War (London, 1639).

BOOK REVIEWS

Soldiers of the Plains. By P. E. Byrne. Minton, Balch and Co., New York. 1926.
5½"x 8⅛". 260 pp. \$2.50.

This volume, another contribution to the literature of the early West, is undoubtedly a response to the awakened interest in the Indian campaigns of the 70's, brought about by the commemoration of the fiftieth anniversary of Custer's fight on the Little Big Horn.

Mr. Byrne views this particular phase of the winning of the West from a unique angle. With sympathy and understanding, he dedicates the book "To the Indian Dead" and takes up the fighting between the "plains cavalry" and the armed forces of the United States government from the standpoint of the Indian. After reading the book, one has to admit there is much to be said on the side of the red warrior, whom the author calls "the finest light cavalry the world has ever seen."

The purpose of the book is so concisely set forth the "Foreword" that a part may be quoted.

The Indian was the great soldier of the plains and, in many respects, the greatest fighter the world has ever known. But, unlike the white man, the Indian had no press agency through which to broadcast his story to the world.

And so it comes about that for the most part such knowledge as we have respecting Indian war ventures, for example, comes not from the Indian but from sources having no interest in presenting the Indian point of view—from official government reports and from stories of men actively engaged with those opposed to the red man. The result: almost all reports of Indian warfare were unfavorable to the Indian—his reasons for war misrepresented; his victories discounted; his acts of heroism, if mentioned at all, carefully flattened out to the level of the commonplace. . . . And what is said of Indian war ventures applies to other phases of Indian history; Indian claims ignored; his grievances minimized; his acts misunderstood; his treaty rights frequently violated; and the world little the wiser, for the white man controlled the news.

In this account an attempt is made to say a word for the red man; to present his side fairly and with sympathetic understanding; to discuss frankly his experience in treaty negotiation; to draw attention to some of his remarkable military exploits; and to touch upon his high qualities as a factor in civilized life. To that extent it supplies a much needed contribution to the frontier history of our time, for we owe to the Indian a fair statement of his case and a just estimate of his qualities as a warrior and a man.

The scope of the book is necessarily limited, and the chapters which follow review in detail the treaty-making and treaty-breaking activities of our government which led directly to the Indian war of 1876.

There is a complete account of General Crook's campaign of 1876 against the Sioux, which closed eight days before the Custer fight in the battle of the

Rosebud, when 1250 warriors under Crazy Horse, the noted Oglala war chief, defeated fifteen troops of cavalry, five companies of mounted infantry, and two hundred sixty Crow and Shoshone scouts—in all about one thousand three hundred well armed soldiers—in a pitched fight on open ground lasting an entire day. This completely eliminated General Crook as a factor in the battle of the Little Big Horn and gave Crazy Horse time to move his warriors over the hills and take part in the Custer defeat, which Mr. Byrne discusses at length.

Perhaps the most absorbing chapter in the book is the account of the retreat of Chief Joseph and the Nez Percés "from the western border of Idaho to the Northern line of Montana, a military retreat which deserves to be remembered with that of Zenophon's ten thousand."

In the final chapter Mr. Byrne reviews the heroism and efficiency of the Indian troops in the World War—the list of decorations for bravery is a notable one—and closes with an appeal for a memorial to be erected in the Indian country commemorating the deeds of the great leaders of the race—"America's contribution to the story and the glory of the Vanquished."—E. L. B.

A Dictionary of Modern English Usage. By H. W. Fowler. Oxford University Press. 1926. 4¾"x 7¼". 742 pp.

In his latest work, the author presents a unique dictionary dealing with problems of English syntax. The selected words and phrases, arranged alphabetically, show correct spelling of words variously spelled, correct pronunciation of words variously pronounced, and, above all, correct usage of words and phrases variously used. The articles, always concise and frequently witty, vary in length from a single line to a page or more. An interesting section gives the pronunciation of French words when employed in English sentences, and the author emphasizes the fact that this pronunciation is not that used when speaking in French. The book will be invaluable for students and writers, and will make an excellent reference book for officers who are called upon to do writing of any kind.

Chinook Days. By Tom MacInnes. Sun Publishing Co., Ltd., Vancouver, Canada. 1926. 4¼"x 5¾". 206 pp. \$0.50.

This little book of pioneer life in British Columbia takes its name from that era of Pacific-Northwest history known as the Chinook days, beginning with the coming of Capt. James Hanna, trader, from China to Nootka in 1784, and ending with the founding of Vancouver City in 1885.

The chapters of the book form a series of sketches of life and people in the most westerly of Canada's provinces, and opens with a brief history of the development of British Columbia. The average reader is amazed to learn that the first visitor from the lands beyond the Pacific was a Buddhist missionary from China named Hoey Sien (the Hozeen of the Northwest Indians). This intrepid monk crossed the Pacific during the Tsi dynasty, about fourteen hundred years ago, and has left an indelible mark on the religious philosophy of the Indians of British Columbia and their nearest neighbors of the United States side.

Then follows an imposing array of daring navigators—Juan de Fuca, Captain Cook, John Meares, Vancouver, James Hanna, and others, who traded and explored from the sixteenth century to the beginning of the nineteenth century.

One chapter deals with the fast-disappearing Chinook jargon, a sort of primitive Esperanto used by the men of many lands who gathered to trade and preach at Nootka. Mr. MacInnes spent his boyhood days at New Westminster and about

Burrard's Inlet, and knew Canon Good, who compiled the first and only dictionary of the Chinook jargon.

A number of Indian myths and legends are narrated; and the closing chapters are devoted to sympathetic biographies in miniature of three picturesque characters of pioneer British Columbia—Captain Jack Crawford, the Poet Scout; Captain Alexander McLean, the "Sea Wolf" of Jack London; and Mike King, the star timber cruiser of the Northwest.—E. L. B.

Hawaii Today. By R. C. Wriston. Doubleday, Page and Company, Garden City, N. Y. 1926. 5¼"x 9". 147 pp. Ill. \$5.00.

Lieutenant Wriston, whose chosen field is aerial photography, has given us something novel in the way of treatment of his subject. In effect, the book is an aerial journey in which the reader accompanies the author around the group of islands by way of Oahu, Lanai, Kahoolawe, Hawaii, Manui, Molokai, Oahu, Kauai and adjacent islands, and Oahu. At various points, as at the Parker Ranch and Kilauea Volcano, landings are made and the journey is continued by motor, by horse, or on foot. The book is profusely illustrated, mainly by aerial photographs taken by the author himself.

The text is clear and well written, and includes information concerning the industries, population, and climate of the islands, as well as the descriptive material the title indicates. The history is covered briefly, the historical chapters being interspersed throughout the book. This work will undoubtedly be well received, and is recommended to every one interested in the Hawaiian Islands.

Leadership—A Manual on Conduct and Administration. By William C. Rucker. The Macmillan Company, New York. 1926. 4½"x 6½". 171 pp. \$2.25.

The title, *Leadership*, is not altogether exact. Leadership implies a relationship between a superior and his subordinates, and while much of the book is devoted to leadership and the development of characteristics essential to leadership, fully as much space is allotted to conduct, relations with other than subordinates, and advice to young officers in regard to social customs and habits. The author approaches his task with some diffidence, but sets a very high ideal which he believes every officer should strive to attain. Optimism, justice, loyalty, and honor form the keynote of his theme. In seven chapters are discussed general considerations, the basics of character, self-leadership, leadership of service personnel, leadership of the public, relations within the Service, and a conclusion. The book is addressed particularly to officers of the Public Health Service, but every page is of value to officers in any public service.

The Preliminaries of the American Revolution as Seen in the English Press, 1763-1775. By Fred J. Hinkhouse. Columbia University Press. 6"x 9". 216 pp. \$3.50.

The press of pre-Revolutionary period was as impartial toward the questions of the day as conditions permitted. There was no editorial expression of opinion, as we now understand editorials, but the columns of the newspapers were open to its readers for argument or for expression of opinion on either side of any question of interest to the public. The British, still fond of writing letters to the newspapers, took full advantage of the opportunity and expressed their ideas fully and forcefully.

Professor Hinkhouse, recognizing the value of newspapers published under such conditions, for ascertaining the trend of public opinion and of public interests, made a study of many London and provincial newspapers, half a dozen magazines, and a number of pamphlets and other publications. Beginning with the year 1763, at a time when American news occupied but little space in English papers, he traces the development of interest in American affairs through the Stamp Act and the Townshend Acts to the close of the preliminaries of the Revolution in the outbreak of hostilities in England.

Through all this period he finds a strong element in England favorable to the Americans. Approximately the same amount of space was devoted to discussion in support of the American viewpoint as to the opposition, and both sides wrote with great freedom and with little or no interference from the authorities. The author finds a distinct line of cleavage in English sentiment, with the merchants favoring reconciliation with the Americans and the land owners urging strong measures, and he concludes "that the friends of America in England were not limited to a few advocates in Parliament but included a large and very vocal group outside, and that the War of the American Revolution was in a very real sense a civil war."

The Metric Advance. By Aubrey Drury. All-American Standards Council, San Francisco. 1926. 6"x9". 22 pp. \$0.10.

The author urges support of the metric legislative proposals now before Congress (H. J. 254-S. J. 107), feeling that "the greatest economic opportunity before the United States today is in the adoption of the decimal metric weights and measures in merchandising." The pamphlet should be read by every one not already convinced of the wisdom of a change from the present confused system to the simplest metric system of weights and measures.

The British Navy in Adversity. By Captain W. M. James, C. B., R. N. Longmans, Green & Co. 1926. 5 $\frac{3}{4}$ "x 8 $\frac{3}{4}$ ". 459 pp. Ill. \$3.50.

In this single volume, Captain James presents a vivid and full account of the military and naval operations of the War of American Independence. Holding that the war was essentially a naval contest, he stresses the strategical movements of war vessels, the actions which took place upon the sea, and the characteristics of the naval commanders. The land operations, where we find the author a trifle less sure of himself, are included in sufficient detail to show their influence upon the fleets concerned and to maintain the continuity of the narrative.

In the years preceding the Revolution, the British navy had been allowed to deteriorate in every possible respect. At the outbreak of war the fleets lacked ships, personnel, materiel, bases, and leadership. Conservatism ruled. Fixed battle formations permitted of no tactical ingenuity on the part of fleet commanders. An obsolete signal system made the transmission of the commander's intentions and desires extremely difficult. In every respect the British navy was entirely unprepared for war.

Most of this the author points out with skill. He is particularly interesting when discussing the failures of Great Britain's opponents to take full advantage of these weaknesses because of their own lack of offensive spirit. That the British navy was saved from destruction was due mainly to the unsound tactical doctrines of its opponents.

Captain James fails to give due importance to the system of signalling then in use and to its disastrous effect upon many of the naval combats. He also fails to indicate in sufficient detail the responsibility for the national policy which resulted in the violation of so many of the principles of war. Despite these faults of omission, the book is one of the best on the subject and one which will sustain the reader's interest throughout.

Benjamin Franklin: The First Civilized American. By Phillips Russell. Brentano's, New York. 1926. 6¼"x 9½". 323 pp. Ill. \$5.00.

The career of Benjamin Franklin furnishes a fascinating field of study. Original in character, cheerful in disposition, alert in observation, sound in judgment, and rich in humor, he lived a full life. His spicy wit and happy expression gave appeal to his observations on life. His writings were droll, but spicy, clear, and original. The combination seized the attention of the public. Here is a sample:

Men I find to be a sort of beings very badly constructed, . . . having more pride and even pleasure in killing than in begetting one another; for without a blush they assemble in great armies at noonday to destroy, and when they have killed as many as they can they exaggerate the number to augment the fancied glory; but they creep into corners and cover themselves with the darkness of night when they mean to beget, as being ashamed of a virtuous action.

Between the ages of twenty-five and forty Franklin settled down to the business of life with grim determination. He first took over the *Pennsylvania Gazette*, and later introduced *Poor Richard's Almanac*.

In order to secure my credit and character as a tradesman, I took care not only to be in reality industrious and frugal, but to avoid all appearances to the contrary. I drest plainly; I was seen at no places of idle diversion. I never went out a-fishing or shooting; a book, indeed, sometimes debauched me from my work, but that was seldom, snug, and gave no scandal; and to show that I was not above my business, I sometimes brought home the paper I purchased at the stores thro' the streets in a wheelbarrow.

It is unnecessary to elaborate on the maxims of Poor Richard; they became famous in the colonies and abroad. The gist of the maxims was "To Get On," of "The Way to Wealth." They taught temperance, frugality, industry, moderation, and chastity.

He that riseth late must trot all day.

If you would have your business done, go; if not, send.

What maintains one vice would bring up two children.

Neither a fortress nor a m——d will hold out long after they begin to parley.

Mr. Russell points out that the maxims of Poor Richard were colored by the experiences and difficulties of Franklin in his early life and before he achieved financial independence. The author points out with even more emphasis that in his later life Franklin literally overthrew Poor Richard's maxims and his thirteen "virtues," or precepts of conduct. At the age of forty-two, having accumulated a comfortable fortune, Franklin retires from business to devote his attention to leisure and to science. He is soon to enter upon his busiest and most colorful career. Science and leisure must share a large portion of his attention to politics and diplomacy. This author stresses particularly Franklin's private life. Three chapters are devoted to his relations with some of the charming ladies at the French

capital. The study is subjective rather than objective; the main effort is directed toward the portrayal of Franklin's viewpoint on life, his associations and thoughts rather than his accomplishments. Perhaps it is not well balanced as a biography. However, it serves its purpose admirably, and in point of fascination it rivals the best of fiction.—C. S. H.

Canadian Public Opinion on the American Civil War. By Helen G. Macdonald. Columbia University Press, New York. 1926. 6"x 9". 237 pp. \$3.75.

Thirty-five years ago the faculty of Political Science of Columbia University started the publication of a series of studies in history, economics, and public law. Each year has seen the production of a volume of one or more studies, covering in a period of years a wide range of subjects. The latest study—No. 273 in the series—is an investigation of public opinion in Canada prior to and during the American Civil War.

The author traces the development of economic relations between Canada and the United States, and shows the situation during the preliminary phases of the war. She then endeavors to ascertain the attitude of the average Canadian. Acceptance of opinions expressed in a newspaper, or even in several newspapers, as representative of public opinion is often dangerous, for newspapers do not always speak with a majority voice; but given enough papers and enough official records the public pulse may be felt. The author recognizes the need for care in dealing with such sources and, although the study is based primarily upon newspapers, documents, government correspondence, and historical publications, she takes pains to evaluate her material.

As might be expected, it was found that the sympathies of the Canadians hinged to a great extent upon their economic interests and upon their political allegiance. This suggested a division of Canada, for the purposes of the study, into Canada West, Canada East, and the Maritime Provinces. These differed in their majority sentiments on most phases of the Civil War, but all parties found themselves in singular accord wherever the interests of Great Britain were concerned. The Mason-Slidell incident brought out the fact that Canada was intensely loyal. Had war with Great Britain developed, Canada, unprepared, knowing that her territory would become a battle ground, would have cast her lot with the mother country regardless of sympathy for the Northern or for the Southern cause.

The study constitutes a thorough investigation of a field of Canadian history on which little has been written. It will be of particular interest to students of economic and political history. Its value to military historians is limited.

Cæsar's Gallic War. By A. T. Walker, ed. Scott, Forman & Co., Chicago. Rev. ed. 1926. 5"x 7 $\frac{1}{4}$ ". 702 pp. \$1.72.

No officer can consider his military education complete until he has studied the campaigns of Cæsar, a genius in politics, military leadership and statesmanship, and outstanding as an orator and author. Most of us have, perhaps, read Cæsar's Commentaries, but at an age when we were unable to appreciate the significance of his military movements and at a rate that did not permit us to visualize the whole story.

The present edition had been brought up to date in all respects, and it includes a brief comparison of World War movements with those of Cæsar on the same terrain. The text is fully and carefully annotated; each book is accompanied by a synopsis of the contents of that book; and more than two hundred pages of

appendices and vocabulary make reference to other texts unnecessary. Two hundred and three illustrations, twenty-six maps and battle plans, and six colored plates add to the interest and value of the volume. The text is clear and carefully edited, and the book is well worthy of recommendation.

Diesel Engines. By David Louis Jones. Norman W. Henley Publishing Co., New York. 1926. 5¼"x 9". 565 pp. Ill. \$5.00.

This book was written and compiled with the object of presenting to the practical operating engineer the elementary principles, care and operation of the Diesel engine. A short, understandable chapter on elementary thermo-dynamics gives to the operator all that he needs of this subject. The elementary principles and comparative efficiencies are then briefly discussed.

The chapters on details of construction, operation and engine testing are quite complete and serve as a valuable guide to the operating engineer. Several chapters are devoted to the use of Diesel engines on ships, and one chapter describes the Diesel locomotive, its advantages and possibilities.

This book is profusely illustrated and well written. It is valuable as a reference book on the subject and also as a textbook for students of practical engineering.—R. W. A.

Campaigns of the Civil War. By Walter Geer. Brentano's, New York. 1926. 6"x 9¼". 490 pp. \$5.00.

This contribution to the study of the Civil War comes from the author of *Napoleon the First and The French Revolution*. Though not a soldier by profession, Mr. Geer is a voracious student of military operations. Heretofore his attention has been directed largely toward the campaigns of Napoleon. Now he presents this study of the American Civil War, and every page indicates a careful, comprehensive, and enthusiastic study of the campaigns of this intersectional struggle. The result stamps the author as an eminent military historian. It is, in brief, a concise and critical study of the principal campaigns from 1861-1865. The author's principal source is the "Official Records of the Union and Confederate Armies." In his discussions he quotes freely from Alexander, Henderson, Maurice, Ropes, Steele, and others. In each case his own criticisms are given clearly, but it is apparent that the author rates highly the critical judgment of General Alexander and Colonel Henderson.

It is hardly necessary to add here anything as to the importance of the study of our Civil War from the viewpoint of the professional military man, nor as to the fascination which this study holds. Yet the author has covered this feature so well in one paragraph of his foreword, that I shall quote it here in full.

It is a popular fallacy that the Great War, which ended nearly a decade ago, superceded, so far as military interest goes, not only Napoleon's campaigns, but our own Civil War. This is not true. Marshal Foch put in practice the main principles that underlay the campaigns of Napoleon; and in the Civil War all the principal strategic and tactical developments of the Great War were foreshadowed: a half century earlier, America had faced most of its problems and brilliantly solved them. While German staff officers have regarded the Civil War as a mere squabble of amateurs, the British Staff College, for two generations, has made a careful study of the battles of North and South, and the French general staff has recently (1925) added the history of the American Civil War to the list of subjects studied at the Ecole de Guerre. It is interesting to note to what an extent technical matters in the earlier contest anticipated the latter. In the combats of the Wilder-

ness, the whole technique of trench warfare was foreshadowed; cavalry, for the first time, was used as mounted infantry; many of the modern weapons of war were originated; and the minor tactics on both sides were curiously like those of today.

The Civil War will always possess a fascination to the student of history, if for no other reason, because of the two great leaders it produced: Lee on the one side, and Lincoln on the other. To Lee can well be applied the epitaph of Bossuet on Turenne. "He could fight without anger, win without ambition, and triumph without vanity." Lincoln has already passed into legend, and no words can enhance his grandeur: he was one of the two or three greatest men ever born of Anglo-Saxon blood.

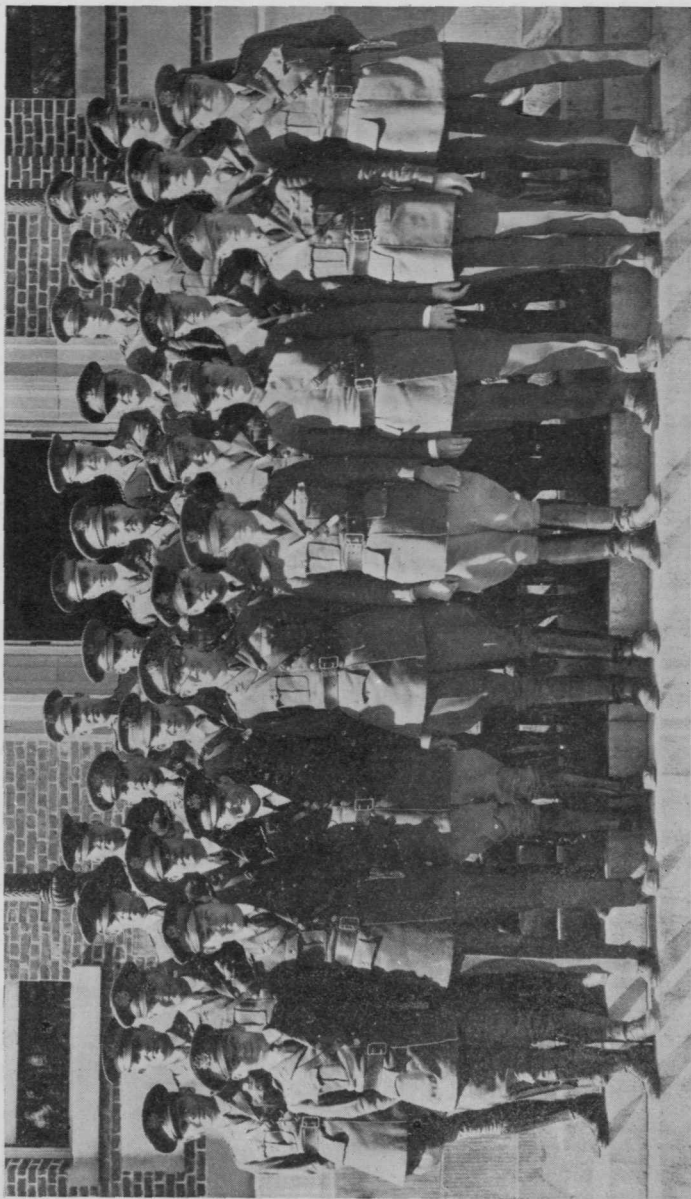
The volume appears to be well balanced. The major portion is properly devoted to the campaigns in the East, but those of the West claim their due share of attention, and the interrelations between these campaigns are developed. Thirty-three essential maps are included for the convenience of the student; the work is carefully annotated and a limited bibliography is added; and the publishers have turned out the volume in a handsome form. It is recommended to both the military and the historical student.—C. S. H.

Air Warfare. By William C. Sherman. The Ronald Press Company, New York. 1926. 5½"x 8½". 307 pp. Ill. \$4.25.

Some time ago the Ronald Press Company undertook the publication of a number of volumes on aerostatics and aviation, in a series called the Ronald Aeronautic Library. The first books covered meteorology, instruments, power-plants, aerostatics, balloons, and gases. The present volume takes up the subject of the employment of airplanes in cooperation with land forces, and shows the relationship between the several types of airplanes. After an analysis of the principles of war in their application to aerial warfare, the author discusses the characteristics of airplanes and their proper rôles in war. Chapters on antiaircraft defense, logistics, and naval aviation bring the book to an end.

The close of the World War found aviation in a stage of rapid advance, and since the war it has progressed to a remarkable degree. The wartime capabilities of the airplane of today are therefore largely undetermined. A study of wartime accomplishment combined with a study of peacetime developments can only indicate in a general way the proper employment of the airplane in land warfare. These studies the author makes in a dispassionate and impersonal manner. His claims for the airplane appear to be based upon sound premises; and he admits for the antiaircraft defense a greater efficiency than do many proponents of the airplane, although officers of the antiaircraft artillery will not feel that he does not credit their guns with their full due.

Major Sherman states that the book represents merely his own personal opinions. Nevertheless, the tactical doctrines he puts forth are, in principal, those taught at the General Service Schools. As such, they may be accepted as representative of the ideas now being dismissed throughout the service. Debatable points are ably presented from both sides, and conclusions are generally conservative. The language of the text is simple and non-technical, although uninspired. The critical eye will be struck by a plethora of commas and by the Leavenworth practice of avoiding split infinitives by arbitrarily placing the adverb before the infinitive, regardless of rhythm; but the book is easy to read and should be of great value to officers of all branches of the service.



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